DOCUMENT RESUME

ED 028 970

SP 002 313

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What Teacher Education Could and Should Be Doing in the Next Twenty Years or a New Focus on the Personal Dimension in the Education of Teacher-Scholars.

Rochester Univ., N.Y. Coll. of Education.

Pub Date [67]

Note-84p.

EDRS Price MF-$0.50 HC-$4.30

Descriptors-Continuous Learning, Cybernetics, *Educational Change, Human Relations, *Individualized Instruction, Inquiry Training, Systems Analysis, *Teacher Education, Teacher Evaluation

Presented in introductory sections of this document is a discussion of the implications of recent advances in knowledge and technology and of the population explosion: future society will have an increased emphasis on continuous learning as man's labor is replaced by machines and as the need for peaceful interaction grows. A teacher-scholar for 1988 is described as one who should possess the qualities of thought and action which encourage intelligent self-direction--a frame of reference, or educational philosophy; systematic ways of acquiring knowledge and of making decisions; and potential for creative responses to changing life situations. A unified plan for the development of self-direction and personal uniqueness of each teacher-scholar is proposed within the framework of an instructional team organization. The plan includes direct teaching experience combined with independent study, inquiry groups, professional action groups, seminars, and a close advisor-student relationship. A discussion (with diagrams) of the functions of the components of such a program is offered. Concluding sections emphasize the importance of using effectively the new instructional materials, of recognizing that evaluation is a continuous process, and of developing flexible programs in which the personal uniqueness of each teacher-scholar can be developed. (SM)

ED028970

MAR 13 1969

WHAT TEACHER EDUCATION COULD AND SHOULD BE DOING IN THE NEXT TWENTY YEARS

or

A NEW FOCUS ON THE PERSONAL DIMENSION IN THE EDUCATION OF TEACHER-SCHOLARS

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SP002313

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INTRODUCTION

When I was asked to prepare this paper on the topic, "What Teacher Education Could and Should Be Doing in the Next Twenty Years," it excited my imagination. It states the problem of planning for teacher education in such an intriguing fashion.

All of us deplore the fact that most educational change in the past has occurred only when the forces that tend to pressure the status quo are finally stretched to their breaking point. In some respects we have lived from one crisis to the next with little impetus for planned change being generated in between. And while we have tried to put out the current fire we, of course, have had little time to give constructuve thought to the positive, long-range direction of educational endeavor.

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*The word personal instead of individual is used frequently in this paper for a specific purpose. To treat a person as an individual (in a psychological sense) at times suggests that he is an object for study and control. A person is a subject (in contrast to an object); a person is not a thing, a symbol or a category in a structure; a person possesses his own unity. For further amplification of this notion, see James B. MacDonald, "The Person in the Curriculum," Precedents and Promise in the Curriculum Field, Teachers College, Columbia University Publications, 1966, pp. 38-52.

Like the fabled bird who flies backward so that he can see where he has been, we have charted our educational course from a rear-view perspective enhanced by hurried side glances at the present. Seldom have we flown oriented positively toward the goals we are seeking via the route we should travel.

Speculation about the next twenty years is indeed a crucial activity for those responsible for planning and developing educational programs of all sorts. To prepare the educational personnel who will have the special role of guiding the young in the next two decades will take all we can accomplish by way of advance planning and action based on long-range assessments of that world. We have no rational choice but to try to imagine what the trends of the next two decades might be so that we can prepare tomorrow's teachers and their students to deal with them. Barring a major catastrophe, the population that is going to influence the world over the next two decades is alive today: today's youth will be in their 30's and 40's twenty years from now, and today's infants will be entering adulthood. If they survive the "double-think" process which George Orwell gave to that "negative utopia" in his novel, "1984," this year's kindergartners who manage to complete four years of college will be graduating in 1984.[1]

THE TASK OF THIS PAPER

The task of this paper is fourfold: 1) it speculates on the changes which will take place in society during the next twenty years; 2) it defines the goals of teacher education in terms of a particular view of the teacher-scholar who will be needed in a changing society; 3) it identifies some specific intellectual-personal differences of teachers in preparation; and 4) it provides a delineation of the implications of these differences for building teacher education programs which will produce the kind of teacher-scholars needed in the years ahead.

An appraisal of current proposals for revising teacher education adds urgency to this task since these all but ignore human differences. At best, new proposals for improving teacher education programs sorely neglect the personal dimension, and certainly do so in contrast to the attention they give other aspects of teacher education. Perusal of recent publications by Conant,[2] Smith,[3] and LaGrone,[4] will support this contention.

A simplified reformulation of the four parts of the task emerges as follows: What are the implications of changes in society and personal uniqueness for developing a unified program for the preparation of teacher-scholars? This formulation brings life to the topic because it calls for a focus on human behavior and human interaction, on the activity of human beings studying and practicing to become teacher-scholars, and on the behaviors of educators responsible for developing the means which would facilitate the accomplishment of this goal.

THE NEXT TWENTY YEARS

Although it is possible that schools in the next twenty years will be used as instruments of thought control and social manipulation, the writer, nevertheless, is optimistic enough to believe there will continue to be a commitment to freedom, creativity and equality of opportunity. With this basic assumption, an attempt is made in the following statement to identify some of the changes that will take place.

No effort is made to identify all or even most of the changing conditions which are having, or might be expected to have, an impact on education. I have chosen to focus on a limited number of changing conditions which seem especially pertinent to developments in education in the years ahead. I trust they will suggest others which ought to be considered.

In general my comments can be clustered around two areas of change: the explosion of knowledge accompanied by dramatic technological developments and the explosion of human interaction.

The Explosion of Knowledge and New Technologies

The rapid advances on our frontiers of knowledge and new technologies have given us almost unbelievable new processes and products which will have the power to enlarge or inhibit the potential of the individual and society.

Obviously there is no way to discuss meaningfully the whole range of new technological developments now taking place or predict completely the future. I merely hope to draw your attention to certain phases of the technological revolution which is already underway and provide some sense of the impact these changes will have on our society and its educational system. Therefore, as examples, I will focus on just two areas of the new technology: 1) systems analysis and 2) cybernation.

Systems Analysis. Management has already invented technologies to carry on mammoth research and development programs. This technology is especially dependent on systems analysis, long-range planning, operations research and other sophisticated methods of attaining and evaluating efficiency. It was first applied to the development of strategic weapons, then to space exploration and now to undersea exploration. One partial but powerful expression of this approach is found in the program budgeting and planning methods first used in the Pentagon and now, at Presidential insistence, being hesitantly and falteringly applied to activities throughout government agencies, including the Departments of Labor and Health, Education and Welfare. It is currently being used by the Rand Corporation under contract with the City of New York in a study of the nation's largest police and fire departments. Because systems analysis purports to -- and sometimes does -- provide a basis for demonstrating the costs compared to the benefits of alternative packages of projects aimed at particular programatic goals, it permits in principle much tighter and efficient implementation, control and evaluation of large-scale social innovations.[5] There is no reason to believe that it will not be applied in the future to reorganizing transportation and communication systems, to city rebuilding and to new city building, and to planning and operating educational systems.

Cybernation. Another recent area of technology with far reaching implications is cybernation, that is the use of automation and computers.

Diebold, the coiner of the term automation, provides a brief description of what changes the computer will bring into our lives.[6]

If we can overcome our fears and put automation to work effectively -- a big if -- we will open the way to a world such as few can imagine. Here are samples of what to expect.

By Century 21, currency probably will be used only for incidentals. Instead of taking home a paycheck, we may have a central account to which our employer's computer automatically credits our salary. All of our purchases at stores, markets, theaters, restaurants, and so on, will be automatically debited to our account at the instant of purchase.

New systems for the handling of information will soon affect everyone. The library will become a central store of information which will be available at any point in the country by means of data-communications systems. When we need particular information, we will simply dial a code number, and information retrieval machines will project the material on a screen or produce electronically prepared copies.

Information-storage-and-retrieval systems will also be used in medical diagnosis and research. A running record of each patient's history, kept in electronic form, will enable doctors to spot disease symptoms or tendencies long before they could be discovered by conventional methods. If we become ill while traveling in any part of the world, a physician will be able to dial a record-storage center and in seconds have our complete medical history.

Perceptron, a pattern-recognition device now under development, can distinquish between letters of the alphabet, identify objects and recognize faces. Machines have been taught to play checkers and blackjack, and have defeated the men who taught them. The most revolutionary research in automation today is being done in what is called heuristic, or self-adaptive systems. Some of these machines are "goal-oriented" -- they can be programmed for a certain goal, and they will keep trying new approaches until they work out the best one. They improve their own approaches as they go along and will be able to cope with entirely new conditions which may be unknown to the intelligence that built and programmed their electronic innards. Most of the publicity concerning heuristic machines has been devoted to their game-playing abilities, but much of the research being done here and in Russia is top secret. Both governments know that the next great scientific breakthrough might come in this area.

These machines have special importance in the space program. When the first unmanned spaceship goes to Mars, for instance, no one can predict all the conditions it will meet. But the spaceship's heuristic system could be given goals of landing, exploring and returning, and it would accomplish the mission in the best possible way, adapting itself to whatever conditions it would encounter.

Many other technological innovations are now taken for granted and are only awaiting financing and public acceptance. On the electronic highways of the future we may dial a destination and let our computer-controlled car pick the optimum route and do the driving. Teaching machines will pace a student's progress, diagnose his weaknesses and make certain that he understands a fundamental concept before allowing him to advance to the next lesson. Computers will enable a businessman to simulate and test the alternatives of a decision before he actually enters into a deal. And the State Department will be able to feed the factors of a ticklish international situation into a computer and learn the probable consequences to each of a wide range of decisions.

Implications of the Knowledge Explosion and New Technology

There are many consequences which one can interpret as a result of the explosion of knowledge and accompanying technological revolution.

In the first place all of those whose work is not fundamentally creative are the potential victims of cybernation. So compelling are the economic reasons for its use that only a major social disaster will slow its usurpation of routine activities.

In the second place, in order to use computers effectively as tools in the instructional process as well as in other activities, it is mandatory that we speed our efforts to learn more about learning and teaching. James, dean of the School of Education at Stanford, identifies the problem and the challenge when he says that "present applications of the new technology put the cart before the horse. Instead of the new education-industrial complex dumping $50 billion worth of junk on the education market; instead of money for machines, the complex needs to first spend a lot more time and money on the nature of the learning process."[7]

A third consequence which needs to be considered is that our society's problems will become more complex, and we will, of necessity, have to use computers to simulate social and physical processes which an individual or group could not understand without the aid of systems analyses. We already have examples of this in the space program and the development of this country's weapons system. Increasingly, the proposed solutions to social problems will be statistical solutions, partly because the techniques for dealing with statistical data will be readily available.

There are, of course, inherent dangers in this approach. What worries me most is that when judgments are based solely on the ability to simulate reality and analyze it statistically, the human being -- the point of the curve -- can become an annoyance. We will have to work hard to make sure that the emphasis on machines and man stay in balance.

A fourth implication of the knowledge explosion is that as a people and an electorate, we will be called upon to make judgments about increasingly complex matters. We already see them today in such issues as the Viet Nam war, the common market, nuclear testing, fallout shelters, space exploration, water pollution, civil rights and so on. But, at best, the most capable of men can fully understand only a small sector of the circle of knowledge applicable to such decision making.

As a shrewd observer of the American scene has stated it: "The nature of modern life calls for studies that are generalizable, that is, that can explain a wide variety of life situations. Such studies tend to be theoretical and abstract. But the more theoretical and abstract they are, the less suited for common education. What everyone seems to need is precisely what everyone is not equally able to learn."[8]

It would seem, then, that as time goes on we will be increasingly confronted with a paradox -- that of gaining comprehension of the incomprehensible. The enormous complexity of social issues and the increasing abstruseness of the techniques for dealing with them will confront education with its greatest challenge. How will we educate to make people comfortable with, sensitive to, and aware of these complexities? How will we teach people to understand their relationship to long-range planning? And how will we teach people to be comfortable with, indeed, to embrace change and the process of change?

Mead captures the educational implications of the new technology when she states, "...to the multiple functions of an educational system we must add a quite new function: education for rapid and self-conscious adaptation to a changing world." She further sharpens the problem by stating what she calls the "most vivid truth of the new age. No one will live all his life in the world into which he was born, and no one will die in the world in which he worked in his maturity."[9]

Very much the same point of view is expressed by Drucker when he says, "Since we live in an age of innovation, a practical education must prepare a man for work that does not yet exist and cannot yet be clearly defined."[10]

Obviously the larger educational task implied by such writers is only partially that of the schools and colleges. A visit to American business and industry will quickly show us that formal education is no longer the exclusive province of the American educational system. Programs, facilities, instructional procedures, outcomes and budgets provided for educational activities are now just as much the concern of business and industry. Those of us with direct concern for our educational system must accept the fact that our elementary and secondary schools and our colleges will be part of a complex of continuing education for a large majority of our people. The learning force will soon exceed the work force.

An extraordinarily important realization emerges from the notion of continuing education to keep up with rapid changes in all aspects of life. That is that no one will ever "complete" an education. We have had the concept of continuing education around for a long time but in former years this meant that an individual had responsibility to continue his personal development on his own. In the future he must find a formal educational structure available to him. Education must prepare him to take advantage of new opportunities, as well as help him to face the insecurities of the changing society promised him as a way of life. Sixty million jobs will change in character in the next generation. Six year olds now starting school can expect their vocations to change three times during their lifetime.[11] Skills will obsolesce and facts will wear out at a more rapid rate. What will be most worth learning will be mainly the knack of learning itself.

There is another side to the matter. At the same time that we concentrate efforts on preparing people for productive places in our changing economy we must recognize that man as a worker is becoming obsolete. However the work of society may in the future be distributed, it is certain that most of the potential productive capacity of our population will not be needed to keep the economy functioning at a very high level. Under such conditions, a man's identity and importance will derive, not from the kind of work he does, but from the kind of life he leads. Education will thus have to include in its objectives not only preparation for a life of work but also the primary work of life. Buckminster Fuller has put it very aptly in his phrase, "Learning a living."

The Explosion of Human Interaction

Education for "learning and living" is tied directly to the second explosion which has far reaching implications for education in the next twenty years: the explosion of human interaction.

The sheer growth and location of the population, the demographic characteristics of this country in the two decades ahead, will profoundly affect our educational system. We expect around 230 million people in the United States by 1975, about 250 million by 1980 -- and a world population of four billion by 1977. By 1970 young people will make up about half of our population, and 1980 those over age 65 will have increased by almost 30% -- unless the toll from smoking, auto accidents, etc., is unexpectedly high. By that time, too, approximately 80% of all Americans will be living in urban areas. Cities now separate will be merging into megalopoli stretching from Norfolk to Bangor, from Minneapolis to St. Louis, from San Francisco to San Diego. Thus, during this period the very idea of the city will alter as physical mobility becomes ever greater and communications ever more accessible.[12]

Faster means of transportation and communication have already intermingled the ruralite with the urbanite, the northerner with the southerner, the free with the less free, the economically privileged with the underprivileged, the black with the white. The current situation was aptly described at the United Nations by Ambassador Adlai Stevenson shortly before his death when he said: "The world is now a crowded house." It indeed appears to be so. Everything we do is observed, everything we say is overheard. The walls are thin and the connecting doors are open. Opposed value systems and mores rub abrasively against one another, no longer separated by the traditional barriers of distance and time. Today what white Mississippians and Negroes in Detroit value and how they react as a result of these values matter tragically to all of us.

The world for young people too is crowded, perhaps even more so than for their elders. Travel, radio, moving picture, television, books, new families in the neighborhood from other sections and lands, "different" children who enroll at school -- all bring into view of children and youth a wide range of choices in human behavior. Direct confrontation with this wide range of choices calls into question personal values and community mores.

Educational Implications of the Explosion of Human Interaction

Young people and adults need help now and will need help in the future in the development and clarification of values -- that is, beliefs that are chosen after deliberation, prized, called upon repeatedly in everyday living and openly affirmed when challenged. It seems fair to state that the need for direct attention to values clarification and development in our schools and colleges will increase as our crowded house becomes more crowded and as our interactions become ever more complex. The educational system of the future, in addition to teaching how to use the new technology most effectively will have to develop effective means for teaching those human characteristics of brotherhood and empathy that will become increasingly important.

As indicated earlier, the computer is critical for much of the physical and social systems management technology. And it can also provide the technology for teaching four and five years olds to read. Note, however, it does not provide teachers and parents with the moral and ethical wisdom to help these youngsters to interpret the significance and values inherent in what they read. This powerful technology for predicting and influencing behavior may come just in time to rejuvenate the democratic processes -- or, irresponsibly applied, it may totally destroy them.[13]

In summary, a look ahead to the next twenty years calls for a new emphasis on the learning needs of each individual. The one need all will share is to learn how to inquire -- how to develop ways of knowing -- and what is worth knowing. In a world rocked with change another learning will be most crucial. Individuals will need to develop a high capacity to adjust to changed circumstances -- a high capacity to innovate. And last, but not least, in a computerized shrinking world, individuals will need to continue to learn ways to live together peacefully as human beings.

One thing is certain, as educational leaders, our encounter with the future and the challenge it holds for us cannot be evaded.

A VIEW OF A TEACHER-SCHOLAR

One way of defining the objectives of teacher education is to describe the kind of characteristics or qualities a teacher-scholar ought to learn through his professional preparation experiences. The following description of a teacher-scholar for 1988 emerges from consideration of the aforementioned technological developments and anticipated human circumstances.*

Developed as a guiding concept, a teacher-scholar ought to possess the qualities of thought and action that facilitate intelligent self-direction, whether in the life of the school or the larger community. Intelligent self-direction, as used here, implies 1) a frame of reference out of which a person operates with awareness, 2) systematic ways of acquiring reliable knowledge and making defensible judgments, and 3) the potential for continuously creative responses to life situations. Each individual's frame of reference is unique, personal, and precious. A central notion in this paper is that this uniqueness of person and thought is a quality which we must cherish in a pluralistic society, and likewise ought to respect and nurture in programs to prepare teachers for the schools of the future. Indeed the society we have in 1988 will, in a large measure, depend on how well we achieve this goal.

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*What is intended here is a general view of the characteristics of a teacher-scholar. A more detailed description of the types of teacher-specialists which will be needed in the schools of the future is provided on pages 50-54 of this paper.

As a self-directing person possesses a frame of reference (philosophy) by which to guide his life, so too does the teacher-scholar possess an educational frame of reference (philosophy of education) from which he approaches school problems and issues. He has the ability to bring personal meaning to the world of ideas. He possesses his own unique frameworks through which he interprets these ideas and has his own good reasons for learning what he decides to learn. This means he is able to select and build upon significant ideas, observe relationships, and distinguish essential matters from irrelevant and incidental ones.

As used here, educational frame of reference has both methodological and content dimensions which refer both to the techniques of inquiry and the products of inquiry. Thus, the teacher-scholar carries the instruments for intelligent self-direction to problems and processes in his classroom role as well as his other roles as a professional decision maker.

Once in the classroom, the teacher-scholar engages in processes of instruction described as acts of teaching. In general, acts of teaching refer to those formal processes which teachers perform that help each student use his unique style of learning, to discover knowledge and interpret experience. In a larger sense, acts of teaching hold as their object the encouragement of self-direction among students. Thus, in the classroom, though at different levels of operation, the teacher-scholar and his students share the goal of intelligent self-direction, working at the task of using knowledge to make life personally intelligible and meaningful. Several things help to foster this goal; an understanding of subject matter in general education, special education, and professional knowledge, adeptness in methods of inquiry suitable to other disciplines and the discipline of education, and skill in adopting a wide range of instructional techniques and materials to the learning requirements of students.

The teacher-scholar is a scholar insofar as he possesses depth and breadth in his major subject field and acquaintance with the intrinsic features of the principal fields of inquiry. He understands the logic and structure of his subject field and related fields, and uses these as means for understanding the realities of life around him. In addition, the teacher-scholar is a student of the discipline of professional education. He has a constantly growing body of knowledge -- facts, concepts, beliefs and values -- organized meaningfully and relating to education in a pluralistic society. He also possesses the inquiry skills with which to generate these. Included is knowledge about the learner, learning, processes of teaching, media and materials, evaluation, goals of instruction, and attitudes and feelings essential in working with his students and colleagues.

Teacher, therefore, implies practice or skill in teaching. The teacher takes the products of his knowledge -- about a field of study, and learners and the processes of learning, and teaching -- and creates, through his own personal style, an effective learning situation. Moreover, he possesses the motivation and tools to become a more effective teacher.

As a result of the ever increasing amount of new knowledge and the rapid changes which characterize a changing society, the teacher-scholar has an active interest in the continuous acquisition of knowledge in his subject speciality, as well as the latest research in the field of education, its theory and its practice. But as teacher he is limited in the possibilities for teacher growth unless he is teaching, in the same way the scholar is limited unless he is studying. In this view, the best teaching demands superior scholarship, and this scholarship is most effectively released through superior teaching.

The objectives of teacher education, then, may be described generally in these terms: To produce teacher-scholars who have

	A KNOWLEDGE OF	and the	PERFORMANCE SKILLS NEEDED TO
1.	major subject field and related fields of inquiry		*use* this knowledge in explaining the realities of life today.
2.	the learner and learning processes (growth and development)		*provide* learning opportunities commensurate with each youngster's maturity, experience, background and capacity to learn.
3.	the processes of teaching		*translate* these into appropriate teaching behaviors in acting and reacting with students.
4.	instructional materials and new technology		*recognize* and *utilize* instructional tools most suitable for specific purposes.

	A KNOWLEDGE OF	and the PERFORMANCE SKILLS NEEDED TO
5.	inquiry techniques appropriate to generalizing knowledge and choices	inquire into educational problems and issues in defensible ways; indicate where he stands and why.
6.	social issues relevant to education and living in a pluralistic society	interpret implications of changes in society into constructive action as a teacher-citizen as well as a teacher-scholar.
7.	values and feelings essential for working with young people and with colleagues	develop working relationships in a wide variety of professional roles in the school and community.

In addition to speculating about the kind of society the future holds and developing a view of the teacher-scholar needed for that society, another important dimension is needed to provide a foundation for planning new teacher education programs. That is knowledge of the intellectual-personal uniqueness of prospective teacher-scholars.

THE INTELLECTUAL-PERSONAL UNIQUENESS OF EACH PROSPECTIVE TEACHER-SCHOLAR

There are many aspects of human uniqueness which we can all easily identify. However, in this instance, I would like to place particular emphasis on some specific aspects of intellectual uniqueness. Too often, proponents of new approaches to teacher education defend them only on the grounds that they are conducive to improved social adjustment and mental health. This is not to say that these ends are not important; but since intellectual development is regarded by so many as a primary function, and in some instances the primary function of education, it seems wise to confront this area of individual difference directly in discussing a new approach to teacher education.

Any proposal that sidesteps this concern is unlikely to get a great deal of wholehearted support.

There is also another reason why I do not hesitate to focus on intellectual-personal uniqueness. In any depth analysis of human differences, one soon finds that intellectual development is inescapably interwoven with social and emotional development. Therefore, with this view of personal uniqueness, where one starts is of little consequence; he soon realizes that all characteristics of a person come together in thinking and acting. However, by using intellectual uniqueness as a base point, perhaps the interrelationship of the cognitive and the affective can be brought more abruptly into focus.

I will only discuss three aspects of intellectual-personal uniqueness: 1) differences in cognitive operations present within each person at any given moment in time; 2) differences in cognitive "style" or method of attacking new problems; and 3) differences in "feeling" about what one knows and needs to know.

Cognitive Operations Present Within Each Individual

Each human being has unique conceptual schemes that he uses in building his frame of reference. These schemes are used to decide if a new concept fits, regardless of whether it is meaningful, relevant or reasonable. Through these conceptual schemes takes place the selection, interpretation, evaluation, and synthesis of each experience. Within the areas of experience of each teacher in preparation, there are a number of variables from interrelated areas of content, materials, media, other learners, the teacher as a person, etc. to which the prospective teacher-scholar gives personal meaning in terms of his view of their relevance to the role for which he is preparing.

Taba[14] has put together several basic propositions, strongly supported by research, which summarize some of the functions of cognitive operations as used by the teacher in preparation. The following propositions selected from a larger list are particularly appropriate to the concern of this paper.

1. Cognitive operations are an active transaction between the individual and his environment or the material under study.
2. Individuals inevitably build mental schemes with which to organize the information they encounter.
3. Thought matures through a progressive and active organization and reorganization of conceptual structures.
4. The individual fits the information he receives at any moment into the conceptual scheme he already possesses.

Flavell[15] in his translation, interpretation and synthesis of the writing of Piaget, adds to our understanding of individualized conceptual operations in the following statements:

1. Every act of intelligence presumes some kind of intellectual structure, some sort of organization, within which it proceeds.
2. An act of intelligence, be it a crude motor movement in infancy or a complex and abstract judgment in adulthood, is always related to a system or totality of such acts of which it is a part.

LaGrone,[16] in his recent proposal for the revision of the preservice component of teacher education, puts the ideas of Flavell and Taba to work. However, he forms different implications than I. I mention this now because I will comment on LaGrone's proposal later.

Building curriculum in terms of each prospective teacher-scholar's unique conceptual schemes does not suggest to me a mere substitution of other pre-structured courses in a different sequence than now exists. Recognition of intellectual personal uniqueness calls for a new definition of sequence. Sequence, in terms of what I have written here and what I infer from Flavell and Taba's views of conceptual operations, can only be defined in terms of each learner. What may be a reasonably organized sequence for the curriculum builder may be irrelevant to the learner who reasons 1) in terms of the conceptual operations present in himself at a given time and 2) in terms of relevant determinants he personally uses to select, interpret, evaluate, and synthesize experience.

Perhaps this reasoning will be more acceptable as it is extended to a consideration of the intellectual-personal uniqueness in cognitive "style," and the interrelationship of the affective and cognitive dimensions of learning and teaching.

Cognitive Style or Personal Approach to Intellectual Tasks

Each prospective teacher-scholar is as personally different in his learning style as he will be in his teaching style. Research provides increasing evidence that learning is an exceedingly complex personal function, not only because of the inherent difference in the learner himself, but also because learning is truly an expression of the entire person and thus shares the acknowledged complexities of the person as a whole. A person's characteristic approach to learning tasks is a result of a multi-faceted interaction between his intellectual abilities and his personal characteristics.

Each teacher-in-preparation approaches an intellectual task in his own unique way. The particular pattern of personality characteristics he brings to such tasks determines in no small measure the manner in which he defines and approaches that task. His hopes and attitudes with respect to its accomplishment, the nature of the problem-solving processes he employs, the quality of the final resolution, and all the attended feelings and emotions that influence the who, where, when, and how of his cognitive attack are influenced by his personal uniqueness. It might be well to highlight some of these specific differences in intellectual approach and some of the factors related to these differences.

Some learners are so called "convergent thinkers" and cannot adapt to situational demands which require flexibility in thinking rather than rigidity. Others are what Guilford[17] has termed "divergent thinkers" who are able to produce a variety of responses when required by task or situation. These styles of thinking are described more specifically in the cases included in Getzel's and Jackson's[18] Creativity and Intelligence. Bruner, Goodnow and Austin[19], in their studies of thinking, identify discernible strategies which different individuals apply to a task. They identify the "simultaneous scanner" who deals with many independent variables and carries them in memory using each instance encountered as an occasion for judging which hypothesis is tenable. The "successive scanner" tests a single hypothesis at a time; he limits his choice to those instances that provide a direct test of his hypothesis. A learner with a different style engages in "conservative focusing" and always seeks positive instances to use as a focus. Still another is a "focus gambler" who uses a positive instance as a focus but then takes risks by changing more than one value at a time.

Many factors influence cognitive style. One of the most influential factors is self-concept. The way one believes others view him or the way he perceives his own adequacies and inadequacies has a special bearing on the aproach he uses in embarking on any new learning experience. Lecky[20] contends that the self-concept once developed is quite resistant to change. Some learning problems may be especially difficult to remedy because greatly improved performance may actually be inconsistent with the person's self-concept. According to Jersild[21] a learner perceives, interprets, accepts, resists, and rejects what he meets in school in light of his own self-esteem. Rogers[22] emphasizes the importance of self-concepts when he states that an individual learns only those things which he perceives will enhance the structure of self. This approach to learning as a highly personal process energized by a primary drive for self-fulfillment is summarized by Snygg and Combs.[23] They point out that the learner performs an act the thousandth time for the same reason he performed it the second time because it is the most effective way he knows of satisfying his immediate needs.

This brief glimpse at the interaction between each person and his cognitive style supports the notion that .... learning, problem-solving, confrontation, and discovery are interwoven into the fabric of total personality. Each individual has his own distinctive set of personality characteristics and his own related patterns of goal setting behavior.

The Interlocking Relationship of the Affective and Cognitive

Out of this brief examination of intellectual-personal uniqueness comes the realization that the affective or feeling aspects of human development are as entwined with the cognitive or knowing aspects as two crossed fingers.

One way of demonstrating the relationship between the cognitive and affective is to examine it in a specific context. The process of communication seems to me to offer a fruitful example for use in this context, not only because it demonstrates the relationship of the affective and cognitive, but also because it is a central process in teaching. In fact, so central is the communications process that some experts such as Gerbner[24] describe the nature of teaching in communications terms.

With this basic purpose of demonstrating the relationship of affective and cognitive in mind, let me briefly describe some relevant actions involved in communication. Browne[25] states that communication is the process of transmitting ideas or thoughts from one person to another, or within a single person, for the purpose of creating understanding in the thinking of the person receiving the communication. It must not, however, be automatically assumed that meanings are in agreement just because words are in agreement.

Mead[26] describes language as a co-operative process in which it is necessary for the communicator to play the "game," which he defines as taking the point of view of the other in order to determine what the other is going to do with reference to a common end. He compares this to a baseball game in which each act of the communicator is determined by his assumption of the action of others who are playing the game. What he does is controlled by his being everyone else on that team, at least insofar as those attitudes affect his own particular response. We get, then, an 'other' which is an organization of the attitudes of those involved in the same process.

In the process of communication, the communicator must try to understand what his listener feels, as well as what he knows. To make the cycle complete the listener should try to understand what the communicator feels as well as what he knows.

Flavell[27] describes this interaction as follows:

> One first of all has to code for oneself information from some source; that is, one first has to "know" in some form what one wants to communicate. Then -- and this is a crucial step -- one has to recode for the other the information to be communicated. That is, to a greater or lesser extent, depending upon the nature and extent of differences in the role between sender and receiver, information sent in a coded-for-self form will be inadequately communicated to the other. The question is: how to recode so this specific other with his specific propensities, capacities, limitations, store of relevant information, etc. -- in short, his specific role attributes -- will understand precisely what you intend him to understand.

In the recoding for the specific other it is necessary to realize that his specific propensities include not only what he knows about what you wish to communicate, but also what he feels about what he knows and what you know. If this is a correct view of some of the elements involved in communication, then it also seems true that if one disregards the affective or feeling aspect he is leaving out a very important part of the process.

Examination of the communication process clearly demonstrates that the affective and cognitive aspects are not discrete. They operate simultaneously within each individual with varying degrees of influence in any particular situation or event. Presumably any situation or event lies at some point on a continuum between situations which are viewed as highly intellectual or cognitive in content (e.g. describing a book so that it can be selected from a bookshelf), and acts which are primarily affective in content (e.g. a student explaining to his advisor the reasons why he participated in a "sit in" against CIA recruiters).

Investigation of the relationship of the affective and the cognitive also suggests that in order for the positions of communicator and listener to be integrated into a single communication, the relationship of the affective and the cognitive must be understood. This understanding is, of course, a prime requisite in learning and teaching and is a central factor to consider in planning a teacher education program.

IMPLICATIONS FOR DEVELOPING A UNIFIED APPROACH IN TEACHER EDUCATION

A Learning Environment Which Fosters Personal Interaction

The most immediate consequence that comes from an understanding of the personal dimension as I've developed it, is that a one-to-one relationship between each prospective teacher and at least one or more advisors is a necessity. If instruction is to be personalized, it behooves at least one member of a teacher-education team to know the learner; the conceptual operations or schemes the learner is using to see the world, the particular style of thinking he employs in his search for knowledge, and how he feels about what he knows and needs to know. Furthermore, once knowing these factors regarding a student and realizing that the process of growth within each student is continuous, a continuous one-to-one personal relationship is needed to help each learner to interpret, evaluate, and select his next appropriate experience.

This relationship implies certain functions for the teacher-scholar who maintains this one-to-one relationship. I would like to highlight at least three responsibilities which he must fulfill. First, he must be a "learning diagnostician." In order to determine the conceptual schemes operating within the student and the state of readiness of the student for each new experience, he must have the ability to determine the "relevance determinants" the student is using in tuning in and tuning out certain experiences.

Second, he must be a "resource agent." He must be aware of the many other people, materials and media available in the student's environment to help the student have his next confrontation or make his next discovery. He must also facilitate the bringing together of the student and the resources in the most meaningful fashion.

Third, he must be a "synthesizing agent." After the student has participated in an experience, he must be available to the student to help him interpret his perceptions of what has happened in terms of new knowledge as well as the new feelings resulting from a particular confrontation or discovery. At certain points in carrying out responsibilities, these three functions actually dovetail. While operating as a "synthesizing agent," he not only is helping the student clarify and synthesize, but he is functioning as "learning diagnostician. Since each new experience changes the student's frame of reference to a greater or lesser degree, the student's relevance determinants are continuously changing. As "learning diagnostician," he must be aware of these changes and respond to them as "resource agent." These functions are all interwoven in the teaching-learning cycle.

The teacher-educator, then, in this context, is one who "unlocks" resources for learning by identifying and providing a wide variety of alternatives, and creating situations which promote the continuous challenge of new learning experiences for each learner. Helping learners select, interpret, and integrate experiences involves complex tasks. It may mean helping a learner not only to confront new situations as mentioned, but also may involve helping a learner to drop a certain rigidity of thinking which he may have. In some cases the learner may have developed blocks to further learning which must be done away with before learning takes place. In certain instances the teacher-educator may just help the student use what is already in him.

Another aspect of this one-to-one relationship which requires special comment is a realization on the part of the advisor of the influence he can have on his advisee through the kind of close relationship described.

We often discuss the impact a teacher can have on his students as a role model. Let us look at what this concept means here and what particular responsibilities are implied for the teacher-educator as a personal model. The teacher-educator I envision teaches what he is in that he squares his actions with reasoned beliefs but at the same time he maintains the kind of personal relationship in which the student does not have to mimic him. His function is not to produce a replica. The student is able to freely develop his choices. Access to the opportunity to develop free choices and the protection of this right for each of his students becomes a primary responsibility of the teacher-educator. His aim is to create the kind of situation in which the student can afford to be himself. Too often actions are forced out of fear. If learning is to be significant, the prospective teacher-scholar's shortcomings must be accepted by him and accepted by his advisor without the kind of judgments which inhibit further learning.

The maintenance of this kind of learning environment where students can reveal what they do not know requires a condition of freedom, not only on the part of the students, but on the part of the advisor or instructor, or for that matter anyone who receives this information. This means the teacher-educator must be freed from the outside limitations often placed on him by the organizational and mechanical structures of the institution such as credits, grades, and the many other external devices which so often merely represent elaborate attempts to avoid personal meanings. Consideration of the personal dimension calls for a climate in which human interaction can bring about personal commitment and the clarification of lasting human values.

The concept of "milieu therapy" described by Redl and Wineman[28] illustrates best the kind of situational learning environment I envision as essential in programs to prepare teachers. Through a systematic program they created an environment in which each member of the group, teachers and students, had a significant impact on the behavior of everyone else in the group. The work of Bills,[29] Raths,[30] Rogers,[31] Cantor,[32] and MacDonald[33] lends further confirmation to the importance of personal relationships in producing a commitment to action.

I'm sure we all can provide further evidence of the importance of personal relationships by thinking for a moment about the influence of a particular person on our behavior. What one of us cannot look back into our own experience background and identify a teacher or colleague who had a significant influence on our life?

In terms of the earlier statements about conceptual schemes, more than likely this person we identify is someone who knew us well enough to be aware of the windows through which we viewed the world. We valued being acquainted with this person over the years because we were able to continue a meaningful dialogue with him. Even though the dialogue at times may have been interrupted, it was easy to start at a significant point some time later. These are rare relationships and we cherish them. In fact, we may only know a few people who are tuned into us well enough to push us to our next level of thinking about a given issue.

In our teacher education programs, we can either enhance or inhibit these personal relationships. Holding the fostering of personal uniqueness as a top priority has consequences for all of the dimensions of teacher education.

Instructional Organization and Methods

If teacher-educators seriously set out to build a teacher education program on the personal dimension, some of the following changes in instructional organization could emerge.

As a basic unit to foster individualization and synthesis of experience, I would suggest participation in a continuous "inquiry group" along with a close advisor relationship. Such a basic unit would be necessary to implement a program conceived and executed in terms of the relationship between the personal dimension and each of the other dimensions of teacher education. Complementing the basic inquiry group would be the opportunity for continuous and appropriate independent study and direct experience throughout the program.

All courses and experiences would be viewed as "options" to choose from. To provide maximum flexibility, there would be no mandated sequence of courses. The scope and sequence of experiences would be developed by each student and his advisor. Courses in special fields would be selected in terms of the personal framework and professional goals of the student. Similarly, the faculty in the professional area would make assignments, originate content, guide independent study and provide opportunities for a variety of direct experiences on the basis of knowledge of the student and the professional role for which he was preparing. Moreover, the length and sequence of experiences would vary.

The continuing inquiry group seminars would be taught by an instructional team. This team would advise, teach, and supervise the direct experiences of students throughout their program. Each student would look to one member of the team as his advisor. This advisor would fulfill the functions of the "learning diagnostician," "resource agent," and "synthesizing agent" described earlier. All other members of the team would also serve as "resource agents," but each student advisor would be responsible for communicating to other members of the team and other specialists the special needs of the student for which he was particularly responsible. Contacts with instructors of the student in the general education and special education areas would be maintained by each student advisor in order to relate knowledge in these fields to the professional responsibilities for which the prospective teacher-scholar was preparing. Continuity would exist in terms of both staff and students. Each team would include a pattern of expertness in various areas of knowledge and experience. Provision would be made for supplementing the team with needed specialists. Figure 1 on the following page illustrates the resources available within the University to the prospective teacher-scholar and an arrangement for the synthesis of these through a continuing inquiry group seminar and individual conferences with advisors.

Staff members and leaders from cooperating teaching centers and other agencies in which students would have direct experience would be involved in the team operation as instructors and planners. A close relationship with these cooperating agencies would encourage free exploration for each student as he systematically studied teaching and tested his competence in the many roles of the teacher at various points of readiness in his program. Figure 2 identifies examples of centers of interests in areas in which personnel from a variety of agencies would cooperatively study and learn together.

A reconception of a college as a variety of places and resources which go beyond a campus would require a new look at staffing. There would be three types of faculty working with the teacher education program. A core faculty working full time with the inquiry groups would be responsible for the total operation and integration of separate parts. They would have special responsibility for the students while in the program and for linking the inquiry group experiences with the direct experience, independent study seminars, work in liberal arts and specialization areas, and other research and development activities. In addition to the core faculty there would be a conjoint faculty and an adjunct faculty.

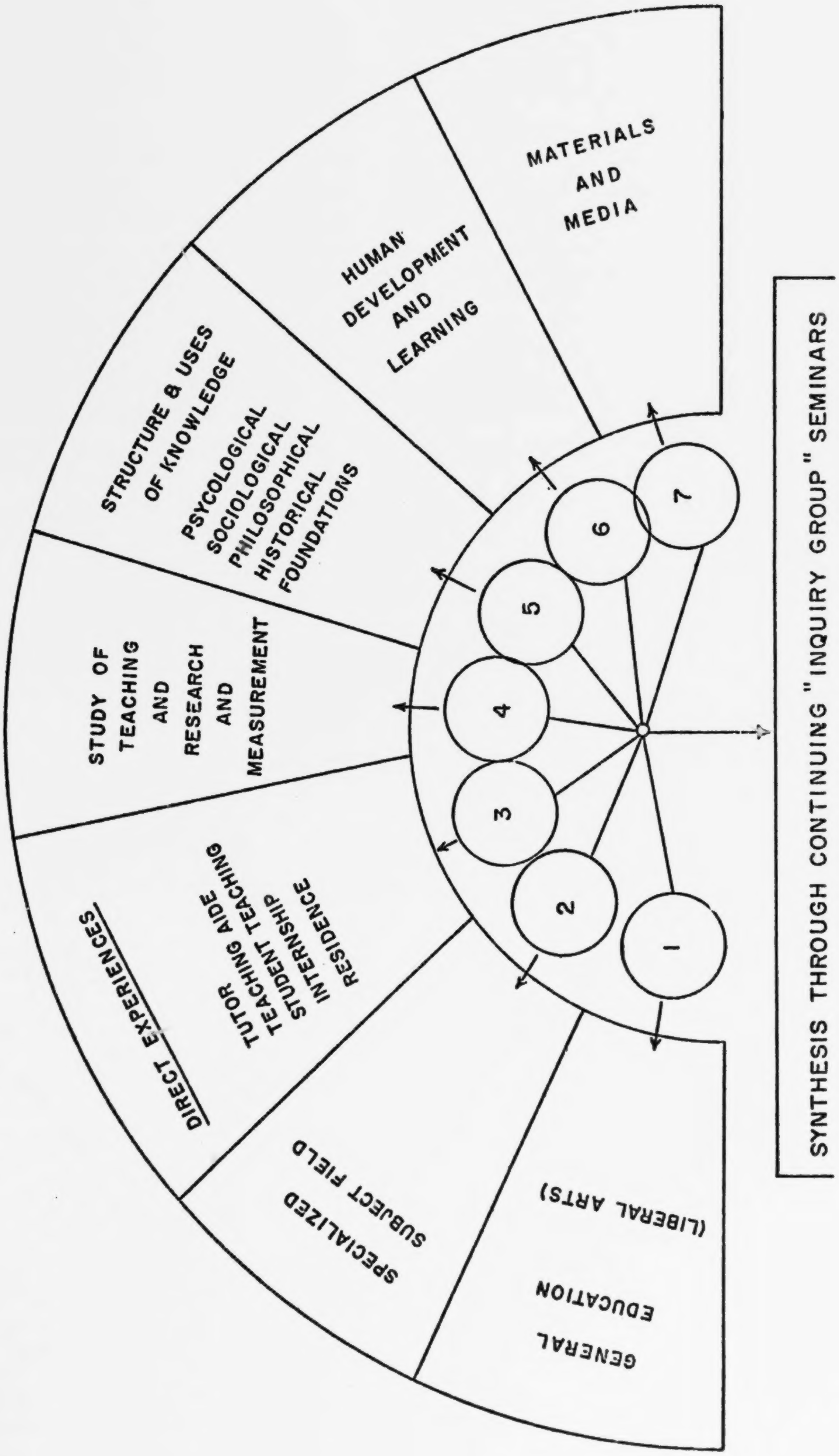

MATERIALS
AND
MEDIA
HUMAN
DEVELOPMENT
AND
LEARNING
STRUCTURE & USES
OF KNOWLEDGE
PSYCOLOGICAL
SOCIOLOGICAL
PHILOSOPHICAL
HISTORICAL
FOUNDATIONS
STUDY OF
TEACHING
AND
RESEARCH
AND
MEASUREMENT
DIRECT EXPERIENCES
TUTOR
TEACHING AIDE
TEACHENT TEACHIP
STUDERNSHIP
INTERNSHIP
RESIDENCE
SPECIALIZED
SUBJECT FIELD
GENERAL
EDUCATION
(LIBERAL ARTS)
1
2
3
4
5
6
7
SYNTHESIS THROUGH CONTINUING "INQUIRY GROUP" SEMINARS
and
STUDENT-ADVISOR CONFERENCES

Figure 1

CENTERS OF LEARNING
A RECONCEPTION OF A COLLEGE EDUCATION

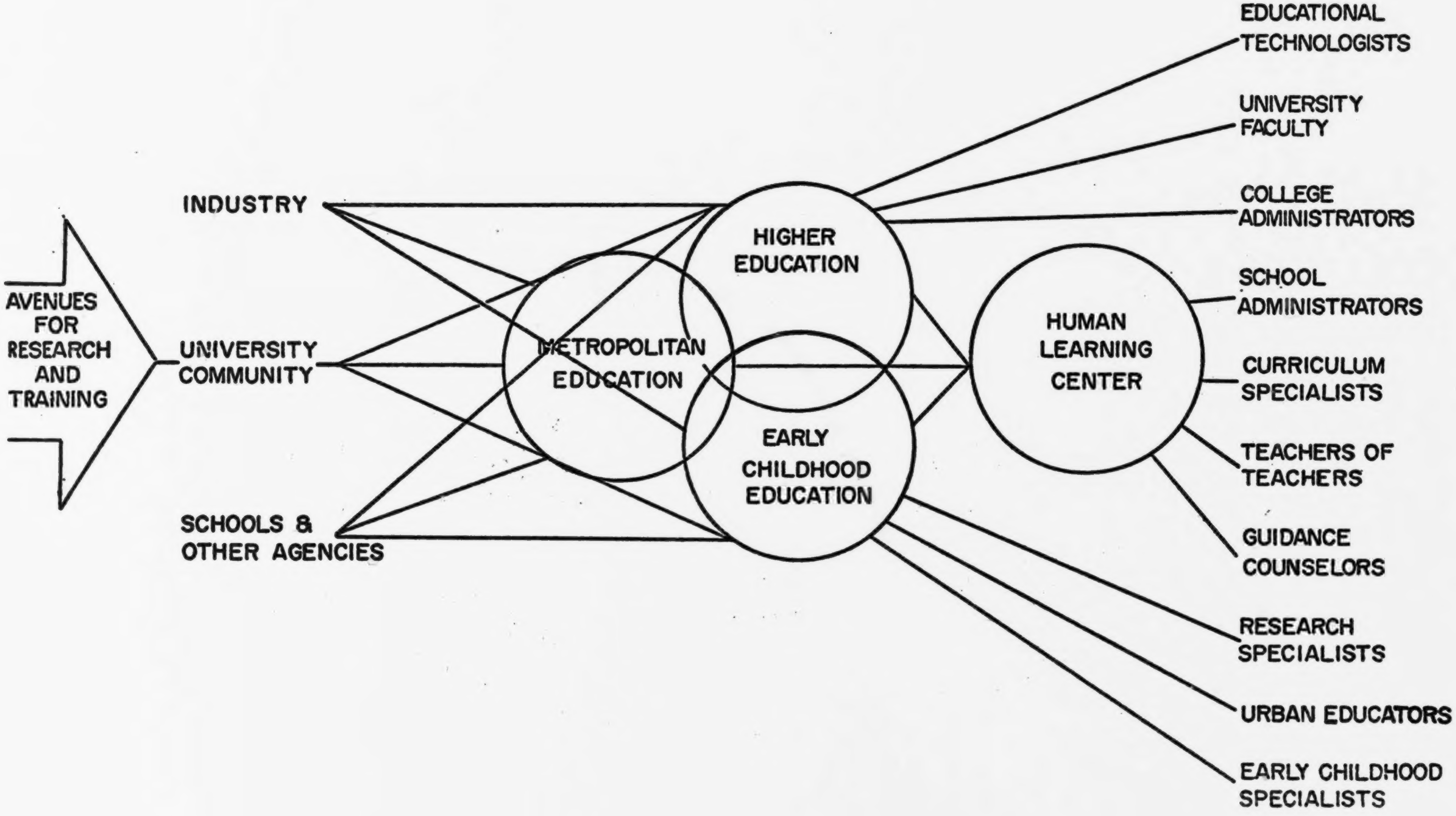

AVENUES FOR RESEARCH AND TRAINING
INDUSTRY
UNIVERSITY COMMUNITY
SCHOOLS & OTHER AGENCIES
METROPOLITAN EDUCATION
HIGHER EDUCATION
EARLY CHILDHOOD EDUCATION
HUMAN LEARNING CENTER
EDUCATIONAL TECHNOLOGISTS
UNIVERSITY FACULTY
COLLEGE ADMINISTRATORS
SCHOOL ADMINISTRATORS
CURRICULUM SPECIALISTS
TEACHERS OF TEACHERS
GUIDANCE COUNSELORS
RESEARCH SPECIALISTS
URBAN EDUCATORS
EARLY CHILDHOOD SPECIALISTS

Figure 2

The conjoint faculty would include members from other divisions of the total university. They would participate in the inquiry groups as professors and/or researchers but their academic careers would be anchored in another college. Their participation and commitment of time and interest would facilitate a multi-disciplinary system.

The adjunct faculty would consist of specialists from institutions, agencies, --educational social action situations--where teachers-in-preparation would study and practice teaching (e.g. as tutors, teacher aides, small group instructors, interns, externs, residents, etc.). The concept of a "teaching hospital" is relevant here. At appropriate times the teacher-in-preparation would work with adjunct faculty in a variety of educational settings (e.g. youth boards, Head Start programs, a school in the South, an inner-city school, an exchange student to a foreign land, in a job corp center, an industrial training or research situation, in the headquarters of the local and/or state teachers association or teachers unions, in an information retrieval center or learning resource center, etc.). The role of the adjunct faculty would be to supervise and give leadership to the teacher-in-preparation, as well as to participate as a teacher and researcher with inquiry groups. Many of the adjunct faculty would be trained in the supervisory skills needed to assist the prospective teachers in the systematic analysis of teaching behavior and the study of the various dimensions of the interaction systems operating in a wide variety of educational settings. Figure 3 identifies the types of faculty which would be involved in the approach to teacher education I envision.

TYPES OF FACULTY

○ CORE

○ CONJOINT

◎ ADJUNCT

Figure 3

Change clinics would be participated in by the three types of faculty. These clinics would diagnose and appraise the changing conditions in education at all levels and develop ways to continuously improve the process of teacher education for each teacher-in-preparation.

Specific arrangements regarding student grouping would be necessary to foster the human interaction emphasized earlier. Larger student groups of approximately thirty-five in number representing a cross section of the student body enrolled in professional education could be set up as well as inquiry groups of eight to twelve. Group activities over an extended period of time in the "professional action" group would be provided for each student although there might be a good deal of shifting among inquiry group seminars. Diversity in terms of experience, background, and professional interest would be sought. Opportunity for the groups involved in teacher education programs to live together in dormitories would enhance communication and professional identification. Such arrangements are already being provided by some colleges and are growing rapidly. For example, the University of Florida will inaugurate a new "living learning" program in which 120 students enrolled in three sections of a course in comprehensive logic will be neighbors in small units within two coeducational dormitories. Instructors in the course will act as academic counselors for the students, and a residence hall counselor will participate in the program as a teacher-counselor. A University of Michigan program will enable fifty future teachers from all academic fields to live and study together. Field trips, guest lectures, informal after-dinner discussions, and similar activities with faculty and visiting experts will be offered to the group. At least one class each term, in which all the students will be enrolled, will meet in the residence hall.[34]

The concept of student grouping could also be employed in such a way that students would work together rather than in competition with one another. Teams could be formalized or could grow informally as needed. Teams would develop with as much diversity as possible for one type of activity and as much likeness as possible in another activity. Different student team members would have specialties in different subject areas or represent different levels of education. There might be joint studies with each team member taking his special responsibility as part of a larger effort. The team could be responsible for some significant action coming out of their work. For example, teams might work in situations as a "task force" responsible for making some specific contribution to a school or to a social agency such as a nursery school, a youth camp, a community center, or a neighborhood settlement house. Participation in a social action project would be something quite special. Each team could "take an educational unit" very much like a medical group "takes a family." For example, just as Western Reserve Medical School starts all first year students off studying the medical history and following up on the solution of the medical problems of a real family.

The aforementioned field experiences coupled with the inquiry group seminars, independent study, and an advisor to help interpret, synthesize and develop next steps, would provide the integrating base of the program. These direct experiences would confront teachers-in-preparation with the necessity of acting on thinking. New concepts would be internalized as the student studied in a variety of direct experiences and reflected upon them.

The aim of these first-hand experiences would be two-fold; (1) to prepare each teacher-scholar as a "change agent," and (2) to develop a spirit of professionalism through acceptance of responsibilities on a social action team. Hopefully, the kind of commitment characteristic of "peace corps" personnel would be developed in this kind of group action context. They would be involved in activities in which the combined efforts of all would be needed to successfully accomplish a project that one person could not accomplish alone.

This instructional organization would lend itself to any size university or college. Faculty-student teams or inquiry groups could be developed as needed. The larger "professional action" group of 35 students might stay together throughout the total program. Involvement of the instructors from special fields would depend on the extent of the cooperation between all branches of the university or college. However, the type of interdisciplinary approach made possible through teams of specialists would seem to make it more feasible to use the resources of all areas of the university in purposeful ways.

Each prospective teacher-scholar would have the opportunity to join a professional action group and be assigned to a teacher education advisor as soon as he decided on teaching as a professional goal. This does not mean that he would discontinue work in the general education and specialization areas. The student could take work in the liberal arts and sciences at various points throughout his experience. Greater emphasis would be placed on different kinds of experiences at different stages in terms of the contribution the experiences would make to him as teacher-scholar and teacher-citizen. Figure 4 illustrates the three types of student groupings mentioned here.

When examined in the light of an individual's professional goal, the usual distinctions made between general education, special education and professional education would tend to lose their meaning. All of these areas of thought and action represent resources to be tapped in different ways by different students for different purposes. In the following example, if one puts himself in the place of this prospective teacher-scholar, he would find it difficult to separate experiences and their purpose into the three categories mentioned. A prospective teacher-scholar with an interest in urban education takes a sociology seminar on race relations and arranges to have first-hand experience working at a youth board with school dropouts. He undertakes a study which involves collecting data on the students. Discovering that he lacks the necessary research knowledge and skills, he audits a research seminar to get the necessary knowledge he needs. Attendance at workshops on data processing sponsored by the computing center follow and provide him with further help on the collation of data. This leads to another experience, etc.

Independent study would be employed in which the students could develop a project, a series of readings, or a variety of direct experiences. At times independent study would serve to fill a gap in a student's background or to permit him to pursue some problem or area of special interest. As recommended in the TEPS New Horizons Report[35], adequate provision could be made for

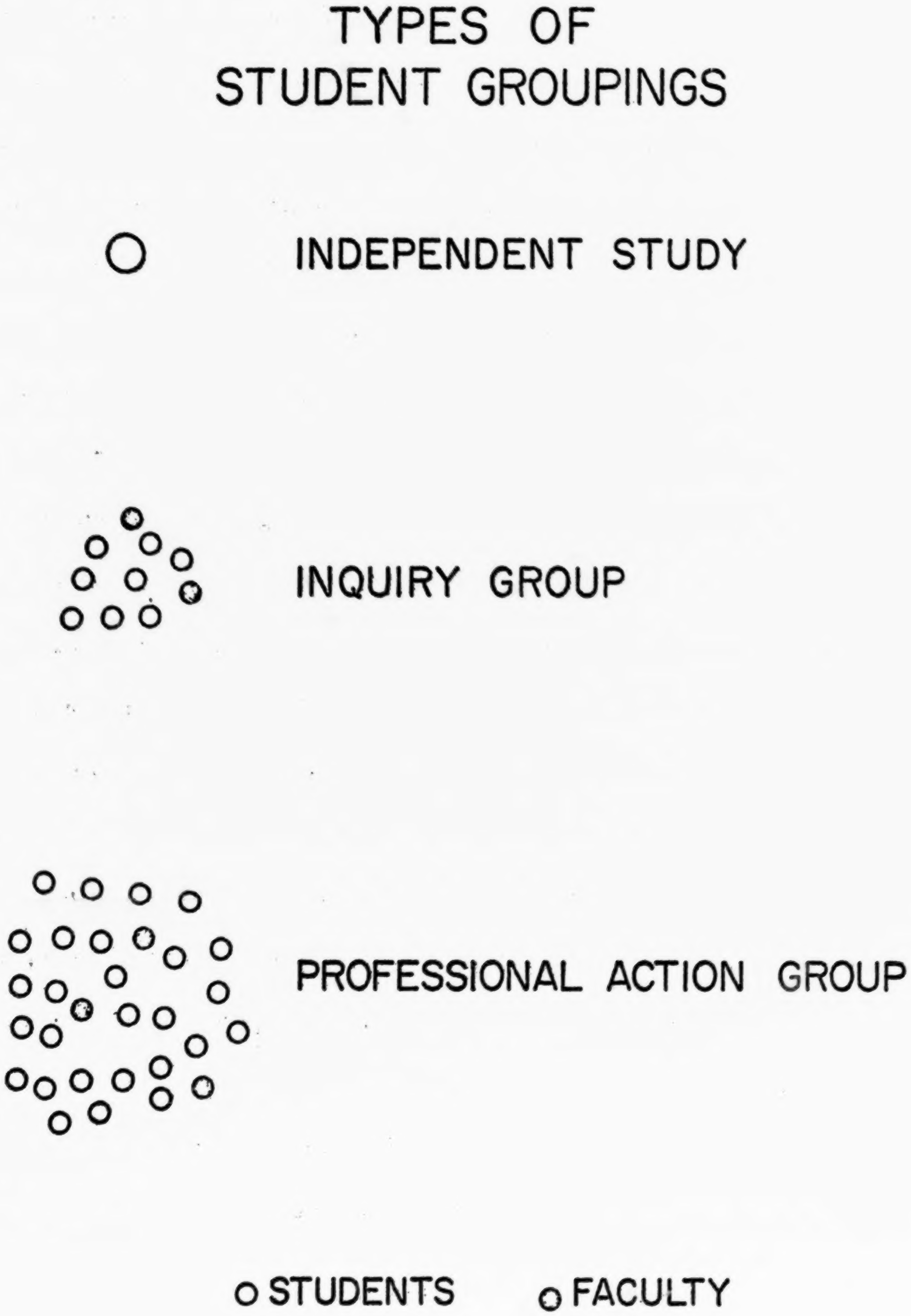

TYPES OF
STUDENT GROUPINGS
INDEPENDENT STUDY
INQUIRY GROUP
PROFESSIONAL ACTION GROUP
STUDENTS
FACULTY

Figure 4

differences in the kinds of experiences, the time an activity occurs, and in the length of time devoted to an activity. Opportunities to take only a part of a course in a special field, enrollment in a course more than once, and engagement in different activities in keeping with changing purposes would be possible.

The instructional organization would provide opportunity for the continuous evaluation of demonstrated competence by calling upon the core faculty advisors and the adjunct faculty supervisors in the cooperating educational units to jointly recommend or not recommend the teacher candidate for induction into the profession. The university and the cooperating teaching centers or "teaching hospitals" would bear the responsibility for the kind of teacher-scholar produced. Indeed, their reputations would hang in the balance. State Education Departments and the U. S. Office of Education could provide the sources for funding such cooperative relationships and the organization which would emerge to facilitate the carrying out of the aforementioned teacher education functions (e.g. funds for training supervisors, staffing of coordinators of programs, for meetings of advisory councils made up of cooperating personnel from the teaching centers and university and to support projects which demonstrate the value of new cooperative approaches). Such organizations are already developing as the profession realizes that the continuous education and re-education of "career teachers" for a changing society requires a "creative partnership" among all agencies involved.[36]

In summary, the proposed instructional organization would include the following phases:

1. A point of entry to occur when the college student decides he wants to become a teacher. This point would undoubtedly occur somewhere in the first three years of college, especially if the college of education offered beginning college students introductory experiences to provide an understanding of the act of teaching and knowledge of the field of education. Students could participate in these experiences without commitment being expected from them as a result. Formal entry to the program then would be preceded by introductory confrontation experiences, some experiences in the liberal arts, identification of a subject field of special interest, and courses in behavioral sciences and humanities.

2. A five, six, seven, or eight year program culminating in a license and either a masters or doctoral degree.

    (a) Continuous direct experience from the time of entry into the program, gradually providing in depth experiences in the classroom role, curriculum decision making staff role, and professional teacher-citizen role.

    (b) Pre-service education experiences which merge with inservice education and a continuing emphasis on the study of teaching as a life-long process.

    (c) Liberal education and studies in a special field to keep up with new knowledge and ways of knowing as part of continuing education.

3. This organization is designed for the teacher of any subject, at any level, because it provides a different experience for each person who progresses through it. It is not intended that the teacher of a three year old have the same experience as the teacher of a thirteen year old, or for that matter that any two people in preparation have the same experience. Opportunity is provided to move in and out of the program as one works to prepare himself for a career as a teaching specialist. (See pages 50-54 for further amplification of this notion.)

4. High standards are maintained throughout by a commitment to the improvement of learning for the students to be taught by prospective teacher-scholars. Demonstration of competence is provided for and examined at all phases of the program.

5. The major resources in the program are a team of specialists in the educational professions, a differentiated staff with a vareity of talents who can utilize both technological and human resources.

6. The study of teaching and the conceptual tools necessary for the refinement of such study are learned through constant interaction of theoretical and practical considerations, and an emphasis on inquiry and its application in schools and colleges.

Figure 5 sketches the various parts of the program. As mentioned earlier, it should be kept in mind that the terminology used- liberal education, special education, and professional education - are really not separate areas functionally. The teacher-scholar draws upon all of these areas in the act of teaching and in his other professional roles. They are used mainly because they are familiar ways of discussing teacher preparation.

Content

Consideration of the aforementioned aspects of personal uniqueness suggests that the content areas of teacher education should be viewed as resources for learning to become a teacher-scholar. Content does not have dynamic qualities in and of itself. These must be provided by the person viewing the content. We also need to recognize that particular areas of content may have dynamic potency for one individual in a group at a particular time and not for another. The degree of interest in particular content will depend on the extent and character of the conceptual schemes through which each individual views the content.

Once accepting this personal view, it becomes necessary to define sequence in terms of human beings. Curriculum builders can logically organize a

INSTRUCTIONAL ORGANIZATION FOR TEACHER EDUCATION

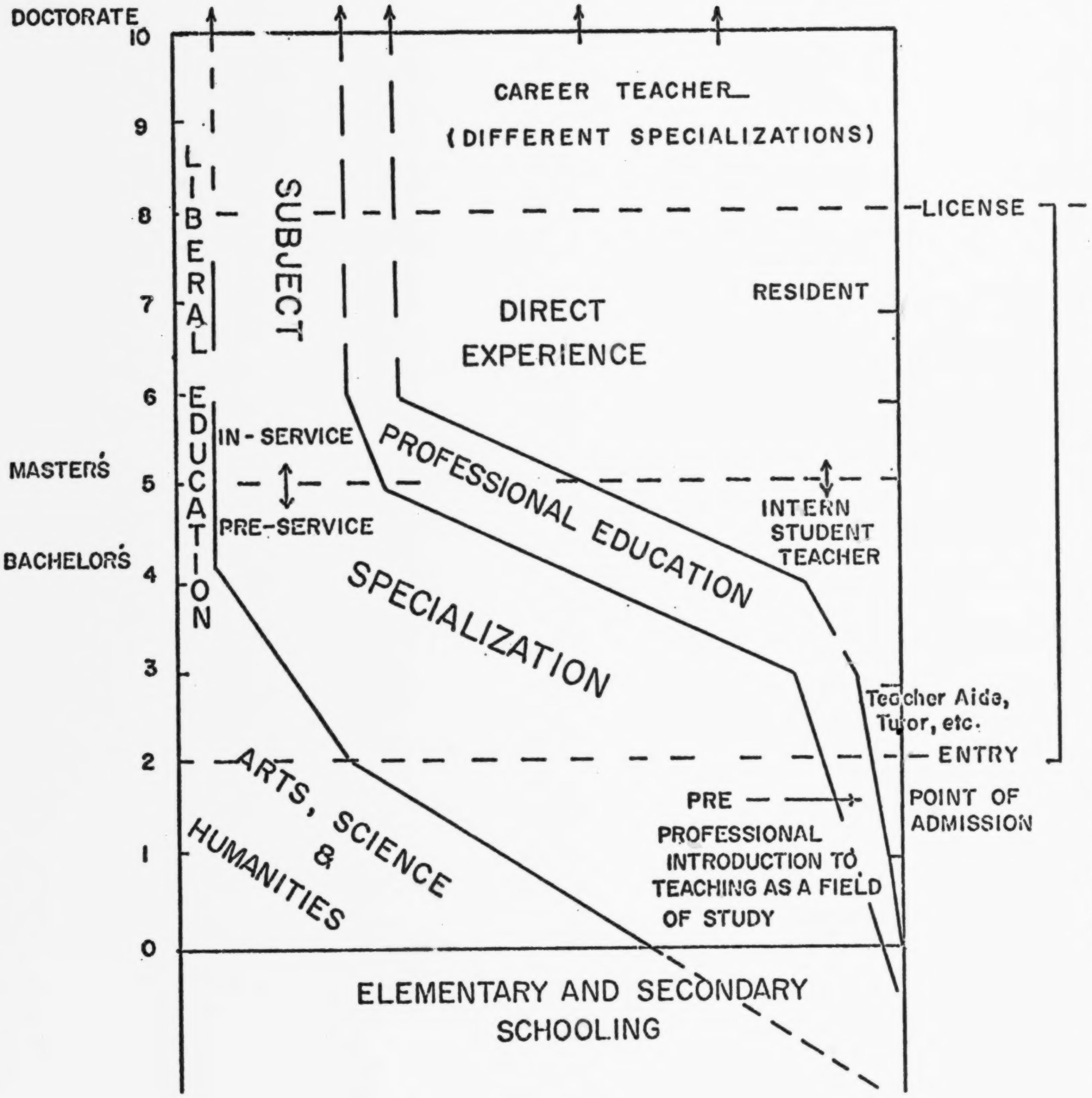

DOCTORATE
10
9
8
7
6
MASTERS
5
BACHELORS
4
3
2
1
0
CAREER TEACHER
(DIFFERENT SPECIALIZATIONS)
LICENSE
LIBERAL EDUCATION
SUBJECT
DIRECT EXPERIENCE
RESIDENT
IN-SERVICE
PRE-SERVICE
PROFESSIONAL EDUCATION
INTERN
STUDENT
TEACHER
SPECIALIZATION
Teacher Aide,
Tutor, etc.
ENTRY
ARTS, SCIENCE & HUMANITIES
PRE
PROFESSIONAL
INTRODUCTION TO
TEACHING AS A FIELD
OF STUDY
POINT OF
ADMISSION
ELEMENTARY AND SECONDARY
SCHOOLING

FIGURE 5

(An adaptation of Robert N. Bush's organizational plan which appeared in a working paper prepared for the 1967-68 Regional NCTEPS Conference, New York City, N. Y.)

content in terms of some significant sequence for the curriculum builder. However, it is within each person that sequence of experience takes place, and it is each person who either tunes in or tunes out each new experience. We too often miss the opportunity to act at the time the spark of learning is lit, because we are operating in terms of a curriculum design outside of, rather than within, the learner.

This is not to suggest that the logical organization of content by curriculum builders is not important. It is, for example, very important in terms of identifying logically associated resources. However, we must be careful not to confuse resource designs with teaching and learning designs.

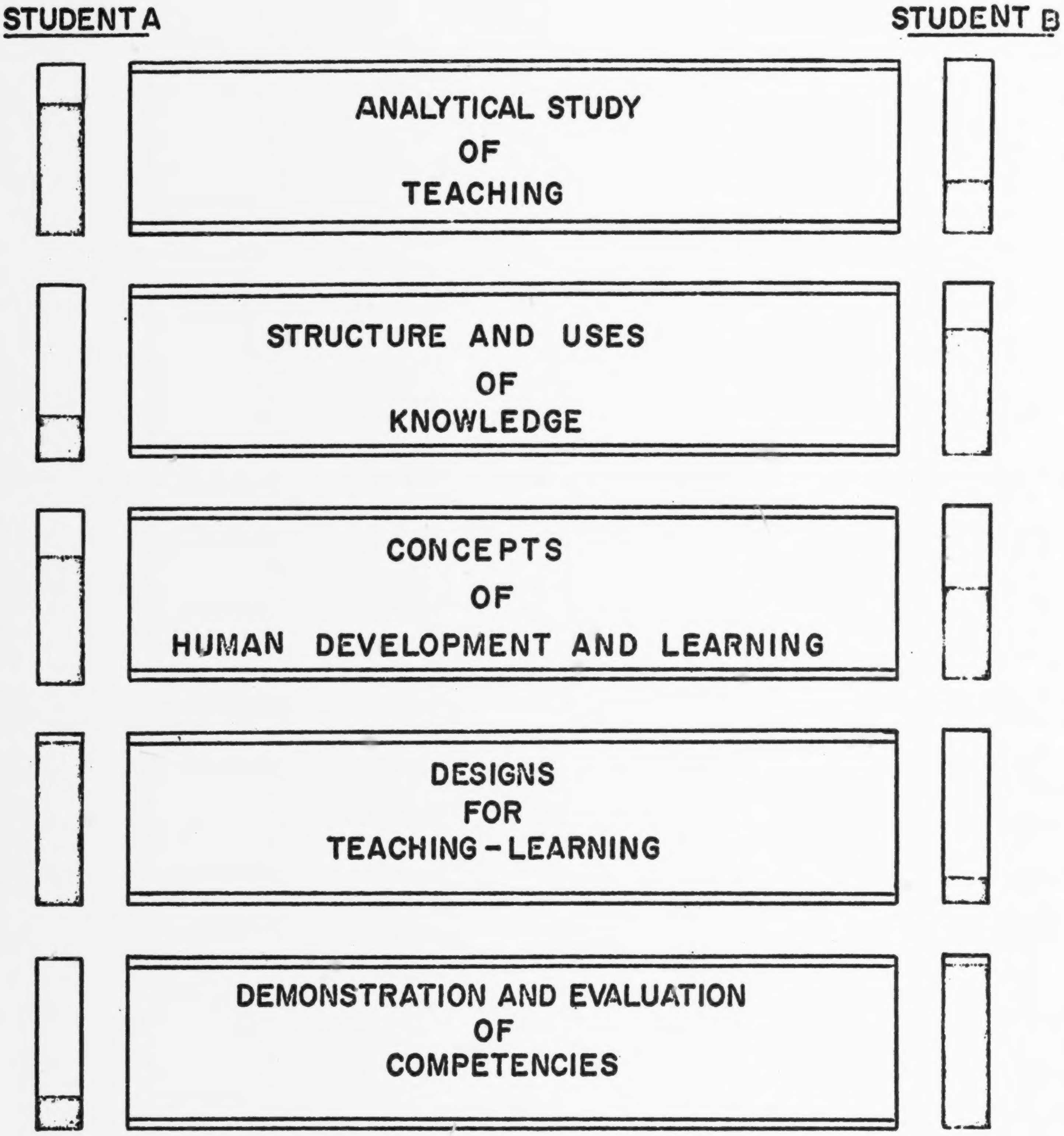
The professional component of teacher education, for instance, has been excellently organized in the recent AACTE report, Proposal for the Revision of the Preservice Professional Component of a Program of Teacher Education, edited by Herbert F. LaGrone.[37] In this proposal, LaGrone develops a series of five courses logically organized from the standpoint of the curriculum builder. In my view, this proposal represents an excellent resource design for the professional component of teacher education. However, when LaGrone proposes that each student should move in sequence through the five courses, it conflicts with my view of sequence as an individual matter. Taking his proposed curriculum as a case-in-point, I see each student moving into each of the five areas he identifies at different levels of depth, at different levels of understanding, and into more than one area at a time depending upon his state of readiness for further study in each area.

Using LaGrone's five areas of study as an example, Figure 6 (on the following page) provides an interpretation of how I believe two different students could be involved in LaGrone's proposed curriculum

I agree, as LaGrone suggests, that many students may need the Analytical Study of Teaching as a first course at the point of their introduction to teaching. I also agree that they should have the opportunity to engage in an analytical study of teaching at this point if it is relevant. However, the appropriate first area for study or next area to pursue for other prospective teacher-scholars, in terms of their states of readiness, may lead to an understanding of the learner, the development of teaching materials, or the history of education. If a student chooses to investigate any one or more of these first, it would not disturb me because in my view all of these dimensions are part of the cloth of teacher education. With the help of a skilled "synthesizing agent," they can eventually be pulled together by each teacher-scholar into a unique design.

Through the instructional organization I have described, a student would enter into content areas in a variety of ways and select out that which would help him become a teacher-scholar.

The learner, in this plan, would be the determinant in building sequence. For example, a student might have a particular interest in programmed instruction. He ought not be forced to postpone this study of programmed materials until the fourth course. He would be provided the opportunity to pursue this area at his level of understanding, at his point of interest, even though he might have limited understanding of it. In the kind of continuous individualized


STUDENT A
STUDENT B
ANALYTICAL STUDY OF TEACHING
STRUCTURE AND USES OF KNOWLEDGE
CONCEPTS OF HUMAN DEVELOPMENT AND LEARNING
DESIGNS FOR TEACHING - LEARNING
DEMONSTRATION AND EVALUATION OF COMPETENCIES

INDIVIDUAL DIFFERENCES IN DEPTH OF STUDY IN DIFFERENT AREAS

FIG. 6

instruction design I suggest, there would be nothing to keep him from coming back to an area in greater depth at a later time when it had more relevance. Since the fabric of teaching is closely interwoven, it becomes easy for the student who started working in programmed instruction to shift into an analytical study of teaching through the interest avenue of programmed instruction. Here he looks at such concepts as continuous adjustment of sequences, operational objectives, perceptions, and feedback. All are concepts of importance in analyzing teaching. He most certainly would confront questions about the learner, content, and evaluation. With the organizational plan for facilitating individualized instruction described earlier, this pursuit of areas as they are relevant would become possible.

The student would also realize that there is no such thing as completing an area of study. He would learn through his own experience that fields of knowledge are in a continuous process of change just as he is, and that a teacher-scholar must be a student all of his life. This would be an important understanding for any individual preparing to be a teacher-scholar in the society described earlier whose most striking quality is change.

Another important factor to consider before proposing a content for teachers for the schools of the future is that many different types of teachers, or teachers with a variety of specializations, will be needed. Not only specialists in different subject areas for different age levels will be required, but teacher specialists for specific functions essential in schools which will focus on individualized instruction, learning, and inquiry goals. A recent paper by

Williams[38] lists at least 32 types of teacher qualities in which teachers of the future will elect to specialize. In addition to the usual specialization areas within a field of subject matter (e.g. social science; East Asian studies, Negro history, political science, economics, etc.), a variety of specializations will develop in other dimensions of the education process. Figure 7 identifies a few examples of emerging new roles which focus less on the teacher as a content specialist and more on the teacher as a specialist in the nature and use of learning resources as they contribute to the instructional process. As the potential of the new educational technology is realized and the role of the teacher turns to that of a "facilitator of learning," we can expect many additional specialist roles to emerge.

The organization of the school staffs around teaching teams made up of a variety of specialists who teach and assist each other as well as teach and assist students will become the pattern in the schools of the future. Figure 8 identifies some of the categories of personnel who will participate in a differentiated staffing plan.

Dramatic changes in teacher education institutions will be required to meet the demands of this new differentiated staffing organization. If beginning teachers, career teachers, and a variety of auxillary personnel are to learn a variety of specialized roles, they will need the flexibility to move through different experiences that cannot be provided by one mold. Colleges of education will be required to offer the opportunity for a continuous flow of educational personnel in and out of the instructional organization which was illustrated previously in Figure 5, page 47.

SOME EXAMPLES OF TEACHING SPECIALTIES IN FUTURE TEACHING TEAM PLANS

- RESEARCH ASSOCIATE
- ASSOCIATE IN TEACHER EDUCATION
- CURRICULUM ASSOCIATE
- DIAGNOSTICIAN - LEARNING AND TEACHING
- VISUAL LITERACY
- COMPUTER ASSISTED INSTRUCTION
- SYSTEMS ANALYSIS AND EVALUATION
- SIMULATION AND GAMING
- PROFESSIONAL NEGOTIATOR

Figure 7

EXAMPLE OF DIFFERENTIATED STAFFING PLAN

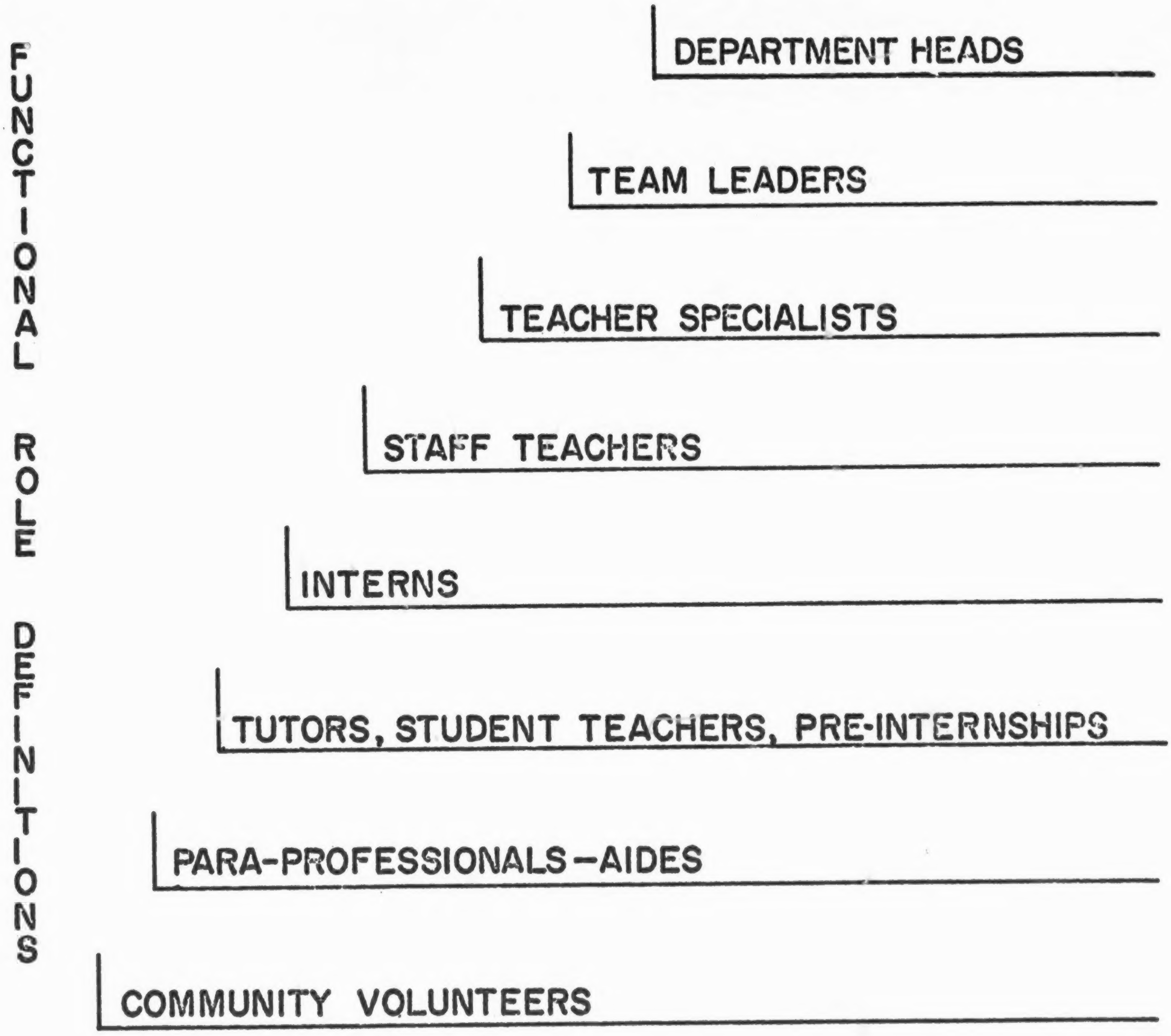

FUNCTIONAL ROLE DEFINITIONS
DEPARTMENT HEADS
TEAM LEADERS
TEACHER SPECIALISTS
STAFF TEACHERS
INTERNS
TUTORS, STUDENT TEACHERS, PRE-INTERNSHIPS
PARA-PROFESSIONALS—AIDES
COMMUNITY VOLUNTEERS

Figure 8

As the general public and teachers themselves realize that teaching roles are not all the same and that each functional role requires different professional knowledge and skill, a clearer image of the teacher as a professional will emerge. Teachers will be paid and receive professional status on the basis of the knowledge they possess in their specialty and the competence they demonstrate in performing their clearly defined specialized roles as members of a teaching team. Once these roles are defined, it will be difficult to assign priorities and values to the functions and levels of competence, but it must be done. In fact it will be mandatory in the future not only because the taxpayers will demand it, but because it is a requirement of any profession to clarify its functions and the level of competence that must be demonstrated to be worthy of membership in that profession. A profession builds respect to the degree that it is able to clearly define a system of accountability.

Before leaving this discussion of content and the relevance of content in terms of personal uniqueness and specialized teaching roles, let me make it clear that I am not saying there is no content or discipline of education, or that content is not now and/or will not be important to teachers in the schools of the future. There is more than enough content available in education to consitute a field of study and it will continue to grow at a rapid rate. All one has to do to be reminded of this fact is to examine Gage's Handbook of Research on Teaching.[39] However, when we as curriculum builders select out of a large body of potentially useful content those areas which we feel are important and pre-structure them into sets of building blocks of concepts, facts, attitudes and appreciations to be digested by all our students, we make a great mistake. It is not only unsound educationally, but inefficient as well, because much of what we try to force on learners, they tune out.

I believe the most fruitful approach for defining the content (options which should be provided for various teacher specialists) is to begin with a thorough description of what teacher behaviors are needed to perform specific instructional functions successfully. The nature of the knowledge and attitudes from which they are derived can then be identified. A number of institutions have moved in this direction[40] and new conceptual tools are rapidly being developed to aid in the study of teaching behaviors.[41, 42] However, it should be recognized that this approach of beginning with an analysis of teaching behavior is diametrically opposed to the present practice in most teacher preparing institutions now operating where it is assumed that if a student studies educational foundations, learning and teaching methods, he will naturally gain the knowledge and attitudes needed to perform successful teaching behaviors.

After reminding us he believes the education of teachers is a process whereby each individual is offered numerous personal choices as he lives through a variety of experiences and that there is no mass method of preparing teachers, Haberman suggests six areas of study which he has derived from observing the performance of successful teachers.[43]

Figure 9 summarizes some of the behaviors Haberman feels are required of beginning teachers and six sources of knowledge from which the behaviors are derived. He cautions that these six areas should not be regarded as six

2

SOURCES OF
THE PROFESSIONAL CONTENT FOR TEACHERS

Areas of Study From Which Successful Teacher Behavior is Derived	Examples of Successful Teaching Behaviors	Examples of Practices in the Program of Preparation to Develop Required Behaviors
1. The Nature of Subject Matter	1. Enthusiastic about subject matter.	1. Arouses youngsters' interests in studies which they do not enjoy or in areas which are new to them.
2. The Nature of Children and Youth	2. Organizes classroom in terms of youngsters' developmental levels.	2. Prepares materials, gives directions and simultaneously guides the work of various groups of youngsters.
3. The Nature of the Educational Setting	3. Demonstrates basic respect for pupils.	3. Gathers data about the school neighborhood and applies this knowledge to unlock or increase youngsters' learning.
4. The Nature of the Process of Learning	4. Sets standards which lead to success	4. Sets individual standards at which youngsters can succeed and which they regard as worthwhile.
5. The Nature of Teaching	5. Uses pupils' ideas to clarify thinking and values.	5. Listens to pupils. Remembers what they say. Uses their ideas to clarify their thinking.
6. The Nature of Self	6. Evaluates his own ideas, feelings and behaviors.	6. Introspects regarding the effects of his attitudes and behaviors on his work with youngsters

Figure 9

courses. They are sources from which experiences in a professional component could be developed. Courses or other independent or inquiry group activities could include some material from all six of these areas.

Figure 10 presents a model of a proposed preservice preparation program at the College of Education at the University of Tennessee developed by a Committee chaired by Donald Cruickshank.[44] It is interesting to note the similarity in areas recommended for study.

Both of these approaches, just as the LaGrone proposal, are rooted in basic assumptions regarding the teaching behaviors needed by successful teachers and the sources of knowledge related to these behaviors. The crucial question for me is the way a proposed program in relationship to these teaching behaviors will treat differently each teacher-in-preparation to help him learn those behaviors which are particularly appropriate to his learning style and teaching specialty.

These teacher education curriculum builders, I believe would agree that the sources of knowledge they identify must not be viewed as discrete subjects which lend themselves to specialized courses -- or any disparate arrangements of study. Instead of attempting to separate knowledge about learning, teaching and setting from one another and from knowledge about growth and subject matter, studies in which individuals analyze and synthesize are the highest form of professional preparation.

Furthermore as Haberman[45] himself states, "the recognition that a teacher must make ideas his own before they will impel him to act is funda-

<table>
<tr><td></td><td colspan="4">A MODEL FOR THE PRESERVICE PREPARATION OF TEACHERS</td><td></td></tr>
<tr><td>Step 1
Early Engagement and Awareness
Personal and Professional Decision Making</td><td colspan="4">The Educational Environment
Designed to help prospective teachers (1) become aware of the diverse kinds of children attending public schools, (2) become acquainted with school and community services available to children and their families, (3) become acquainted with the likenesses and differences which exist among families, (4) make decisions regarding career goals and professional needs.</td><td rowspan="4">General Education</td></tr>
<tr><td>Step 2
Professional Knowledges and Skills</td><td>Study of Children
Designed to help students to understand children's behavior. Activities will include observations, case study, child supervision and seminars.</td><td>Study of Self and Self Concept Attitudes and Attitude Formation
To acquaint the student with knowledge about himself, his attitudes, values, etc. How self-concepts are formed. Activities include study of selected children who are alienated, determination of causes of alienation and projection of courses of action available to help such individuals.</td><td>Study of Human Learning
Designed to (1) investigate classroom learning including the identification of principles of human learning which should be applied to teaching, (2) provide an opportunity for the diagnosis and prescription of the learning needs of an educationally disadvantaged child.</td><td>Study of Curriculum I
Self-instructional modules designed to acquaint students with professional problems and alternatives. Topics among others will include (1) deciding what to teach (2) organizing for teaching (including alternative arrangements for teaching and classroom organization), (3) individualizing instruction and so forth.</td></tr>
<tr><td>Step 3
Theory into Practice</td><td>Microteaching
A laboratory experience in which students teach abbreviated lessons to small groups of children practicing establishing set, questioning, closure and so forth. The microteaching component would be established in one or more public schools.</td><td>Simulation
A setting in which preservice students would be engaged in developing alternative solutions to critical teaching problems presented in a simulated school environment.</td><td>Analysis of Teaching
A laboratory experience in which students study the effects of verbal and nonverbal influence on learner behavior.</td><td>Study of Curriculum II
Self-instructional modules designed to acquaint students with the more practical dimensions of teaching as (1) stating behavioral objectives, (2) lesson and unit planning, (3) evaluating learning, (4) teaching reading and so forth.</td></tr>
<tr><td>Step 4
Professional Practice</td><td colspan="4">Student Teaching
Teaching experience as a team member in schools which provide a breadth of experience with both advantaged and disadvantaged children.</td></tr>
<tr><td>Step 5
Continuing Education in Teaching</td><td colspan="4">Professional Development
Designed to provide continued university support for the first, second or third year teacher. College professional staff to assist in curriculum planning, evaluation, etc. as needed or requested.</td><td></td></tr>
</table>

COMMITTEE ON EXPERIMENTATION AND INNOVATION

August 6, 1967

College of Education
University of Tennessee
E. C. Merrill, Dean
D. R. Cruickshank, Chairman

Figure 10

mental. This truth requires the study of teaching to be an emotionally intense process in which the teacher becomes committed to act, and most of all, to introspect about the nature of his encounters. When means for personalizing knowledge are identified and developed, they will become the highest order of 'know-how' for teacher educators."

These programs are mentioned here not as models for application to other institutions. They are offered as examples of some new ways of conceiving of teacher education and the origin of its content. At the action level, each new teacher education program must emerge from the specific context in which it will operate and be planned by those who will put it into operation.

In this paper I have concentrated primarily on the preservice professional component of teacher education and have said very little about liberal education and specialization areas. However, I do not wish to minimize the importance of including in teacher education programs a liberal education which permits the teacher-scholar to inquire into fields of knowledge and speculate with his fellow students about the great issues which face man. It is absolutely essential for the teacher to have an opportunity to study the arts, sciences, and the humanities if he is to be the kind of teacher-scholar described in this paper. The reforms needed in liberal education are similar to the reforms in professional education. They cannot be repaired by adding a few more hours of work in this or that. It is a matter of quality not quantity. The liberal arts must be made more relevant. They must help the teacher-scholar explain the realities of the life of today and tomorrow. Teaching people to think is not merely a question of training their intellects through the study of organized bodies of fact. The main task of education -- liberal, special and professional -- is to teach individuals to think for themselves and to organize their own bodies of knowledge and experience. New directions in liberal education will focus on individual study of interest areas in depth, colloquiums and seminars which cut across traditional subject matter lines, direct experience in a variety of settings such as a foreign culture, experience in both the study and practice of the arts, and in-depth liberal study of significant moral and ethical issues extending from the beginning of preparation throughout the career of the teacher.

Opportunity for specialization in a specific area will be a necessity for the teacher-scholar regardless of what age group he plans to teach. Universities will have to provide a much wider range of subject matter experiences for the prospective teacher-scholar. For example, if the teacher is going to be able to provide a wide variety of options in English literature which are relevant to adolescents, he must learn about these in his own study of English. For this reason and many others, the preparation of the teacher must be viewed as an all-university function, and the total university must take responsibility for the quality of teachers it prepares.

Materials and Media

There have already been vast technological developments in instructional resources for education, and as forecasted in the first section of this paper, there will be many new developments in the next twenty years. Some of these hold particular promise when looked at in terms of the personal dimension in teacher education.

Earlier I mentioned that the resource agent could function to see that appropriate types of resources are available. These may include material resources -- tools, equipment, supplies, etc. They may also include opportunities for certain kinds of direct experience such as visiting classrooms, making and listening to tape recordings, viewing video tape sessions of classes or conferences, or going to a board of education meeting. They may include written resources -- books, articles, student papers and reports and personal resources; contacts with teachers, fellow classmates or other individuals at the college or in the larger community who have something to share. The resource agent's special responsibility will be to know the student well enough to help him have contact with these resources at the right time.

Among the newest of the resources being used in teacher education is simulated materials. (Kersh,[46] Culbertson,[47] Cruickshank.[48]) The essence of this procedure is to simulate significant educational situations -- the relationship between several people; a classroom of students, a student teacher and cooperating teacher, for example. The Teaching Problems Laboratory, authored by Cruickshank, Broadbent and Bubb, published by Science Research Associates, simulates the persistent problems of beginning teachers.[49] The laboratory contains materials that create a fictitious but lifelike elementary classroom brought to life with filmstrips and films, cumulative record cards, faculty handbooks and other materials. Teachers-in-preparation have a chance to encounter critical events that call for immediate action. Participants can step in and out of their simulated classroom to consider the consequences of what they say and do and develop alternative solutions.

As Rogers[50] has suggested, this type of learning seems to hold promise for creating confrontation situations for prospective teachers. In these situations the student collects data, develops his own stand on issues, and justifies a point of view. The student also finds it necessary to make a personal decision based on the data he has collected to support his stand. He is also involved in the handling of personal relationships with others who hold different points of view. He bears the consequence of his own decision and actions. Throughout the situation, he experiences decision, commitment, and action.

Sensitivity training, a closely related resource used extensively by industry, is now being applied to the preparation of teachers and administrators. (Bradford, Gibb, and Benne.)[51] I believe this resource also has potential for emphasizing the importance of human understanding and decision making in teaching and learning.

In the approach to teacher education I envision, simulated experiences could be made available to students on a volunteer basis just the way the TEPS New Horizons Report[52] has suggested that "clinics" in special subject fields might be offered. The nature of the simulated experience could be developed in terms of the readiness of individuals. For example, exploratory situations could introduce students to the persistent problems of beginning teachers.

More complex simulated situations could be offered as the prospective teacher-scholar's perceptual field for viewing teaching expanded.

Programmed instruction also could be used to individualize learning. (Fry,[53] Williams and Lysaught.[54]) If viewed as another useful tool for personalizing and facilitating learning, rather than a replacement for the teacher, I believe it has potential. Individual students, as has been mentioned, will find gaps in their background. The flexibility of the program is of great value. For example, a program is particularly useful to the student who wants to review some aspect of educational measurement or learn how to operate the new pieces of audio-visual equipment. Instead of taking a course for a full semester, he could turn to a self-instruction program. In these situations, he would work at his own rate with the stress on his own learning and on self-satisfaction rather than extrinsic measures. A library of many "mini-courses" for remedial as well as enrichment purposes would increase the options available to students. These could be offered to students before they entered a program or at any time in the preservice or inservice setting to meet a particular need.

It also is conceivable that more programs, such as those developed by Berlin and Wyckoff[55] in which two people work together at tasks focusing on relationship improvement, will be developed. Prospective teacher-scholars need an opportunity to become acquainted with programmed instruction, because inevitably they will have to make decisions about its use or non-use in their own teaching. We will need to provide an opportunity for prospective teacher-scholars to develop criteria for judging programmed materials. Opportunities for the construction and analysis of programs can also provide first-hand experience of the advantages and shortcomings of these tools for learning.

Educational television can be another useful resource, not only as a teaching medium, but also as a method for observation of classroom situations and counseling situations. (Stoller,[56] Rogers.[57]) Kinescope tapes can be stored and reviewed and analyzed by individuals in terms of their own schedule and at their own speed. Video tapes of teaching at various checkpoints can assist the teacher-in-preparation in examining and improving his particular teaching style. The effectiveness of television and film for analysis has been aptly demonstrated by its use in programs utilizing micro-teaching.[58]

In medical education, television tapes have been used in developing performance type tests. A review of a patient's symptoms are visualized and then interns are asked to respond regarding action which should be taken. Then, as more information is provided about the particular case in point, the accuracy of the responses given is indicated. It is interesting that at times more than one answer may be right for the situation which the intern is asked to diagnose. Performance tests such as these seem to hold promise for teacher education.

The potential of data processing for facilitating scheduling flexibility in teacher education programs should also be mentioned. It is conceivable that through data processing, weekly and even daily schedules of events are possible. For example, Ernest Poll,[59] "The Freshman Project" director at the University of Chicago Laboratory School, tells how the school prepares the schedule of one group of students week by week. A menu of the following week's options is provided on Friday of each week. With the help of their advisor, students punch "options" they want for the following week. A lecture, a panel, a film, a longer block of time for working on a project in the math-science reading lab, etc. By Monday morning, through data processing, a copy of each student's schedule for the week is ready for himself and his advisor.

Some of the technology that teacher educators will have available to them has already been developed but as yet is not widely used. Such companies as the Advanced System Division of IBM have unveiled equipment with the following capacities.

Electronic storage units that can make recorded human knowledge available to the teacher in her classroom by the pressing of a button. It is conceived that there will be many regional centers set up in the United States that contain library books, motion picture films, research reports, periodicals, art prints, etc.

Satellite units, via telephone wires or similar means, will be able to relay this information into individual college and school study spaces, classrooms, dormitory rooms, and independent study carrels. In each room will be a terminal that appears much like a television screen, with audio, and containing a photographic printer that instantly prints what is seen on the screen, if desired. The image on the small screen can be transferred to a large motion picture size screen if wanted by the teacher.

This means that by pushing buttons that are as simply organized as those on an adding machine, the teacher and his students potentially could have available to his class,in a variety of forms, all recorded human knowledge. Let us say a student wants some pages reprinted from a rare book for individualized study, he merely checks the reference guide, pushes buttons and has before him the book reproduced on the screen. By continuing to push buttons, he turns pages until he finds the exact ones he wants. Rather than withdrawing the book from a library, he merely pushes buttons that reprint pages he wants for his report and they come out in his hands, right in his study space or classroom.

Let's take another example. The teacher wants to present information about problems in the cities. This he does with the help of large image screen and specific sections of film selected at random from motion pictures which he has catalogued. These are transmitted at his command through the electronic terminal unit in his classroom. He has no projector to worry about. He doesn't have to go outside his classroom to preview the films. This can be done quickly on the spot. Additionally, the cataloging is done in such a way that references are given for sections of film, which eliminates his necessity for reviewing the entire film to find out which parts might have specific reference to his presentation. By piecing together several pre-determined references, he can show short sequences from a variety of films which better illustrate the points he wants to make. In a question and answer session, when students ask questions that require illustration, the teacher can quickly check his reference guide and flash on the screen examples that could apply to the student's inquiry.

Apparently just about any kind of educational tool can be built and perfected as a resource for instructional improvement if we can determine how it can best be used. Much more will have to be learned about the learner, the curriculum and the goals we hope to achieve to make the most of the new opportunities educational technology has to offer.

Evaluation

Concern for individual uniqueness has implications for all phases of evaluation starting with the initial phases of recruitment and selection. In the selection phase, I believe the locus of evaluation lies with teacher-educators and the teacher education institution. However, once the student is admitted to the teacher education program, the locus of evaluation should rest with the prospective teacher-scholar. Upon the student's admittance, the institution becomes reponsible for creating the kind of situational climate described earlier which enhances self-criticism and self-evaluation.

In selection, the many measuring devices now used, such as grade-point average, STEP tests, the Miller Analogies tests, Graduate Record Exam, etc., leave much to be desired in identifying the kinds of uniqueness which represent potential for becoming a teacher-scholar. An individual may possess outstanding creative qualities which override many of his shortcomings, but these qualities tend to get lost when averaged in with other characteristics and abilities. New types of tests are needed which identify empathic understanding, ability to adapt to change, and ability to respond creatively to spontaneous events.

Experiences in selecting students for an experimental Inter-University Internship Program Project I at the University of Rochester causes me to suggest the interview technique as a useful selection method. Even though there is quite a bit of contrary opinion regarding the interview, when properly planned and with enough time allotted, I believe the interview offers the best avenue that we currently have available for securing pertinent information about a prospective student.

All students selected for Project I were interviewed by three people in separate one-to-one conferences which lasted from one to two hours in length. The interviewers were members of the same instructional team with backgrounds in curriculum and teaching, psychology and measurement, and social foundations. In the interview, the student asked questions of the individuals who would be his teachers. Much was determined from the kind of questions the student asked in the interview, as well as from the answers he gave to questions like these asked by the Project I interviewers: Why select this program? What has satisfied you in your own education? What needs changing? What experiences with youth? What individuals made the greatest impact on your life? In what way? What did they do? How do you feel about this issue?

Do you think you will feel this way five years from now? What action have you taken about something you have felt deeply about? How has it affected others? Are you pleased that it affects them that way? Why do you want to teach?

Interview information, coupled with letters of reference from people who had known the candidate over a long period of time, supplemented other data such as tests and school records.

Even though Project I was a funded project with the stipulation that scholarships should go to superior students, at least one-fourth of the students selected each year were below the minimum requirements of the college as defined in terms of grade-point average scores, the Miller Analogies Exam, and the verbal score on the Graduate Record Exam. All of these probationary students, however, had some unique and creative personal characteristics or presence which the three interviewers felt made them stand out. In other words, even though probationary, they were superior, but not as usually defined. A central purpose in the interview was to deliberately seek out certain personal qualities: for example, the 38 year old army veteran with five children who was a school drop-out but finished his high school courses while in the army and after the army went on to college while supporting a family; the settlement house worker who held two jobs and maintained a C+ average. He and his wife, as fellow students, broke the color line at the institution they attended; the young liberal arts student who couldn't make sense out of his college experience until he decided he wanted to work with youth, got a job in a summer camp, and clarified his professional goal. I could go on to give illustrations of other students admitted on the basis of personal uniqueness and each is a success story. Suffice it to say that all of these so-called probationary students are now teaching and are among the most successful teachers graduated from Project I as judged by their employers, their colleagues, and their students.

The placement of these people in schools which value their creativeness and in which they are free to use their special talents in no small measure accounts for their success. Helpful also are the formal and informal relationships that continue long after the Project students are out on the job.

Evaluation throughout the prospective teacher-scholar's preparation should be viewed as a means. In my experience, evaluation, more than any of the other aspects of education, becomes an end in itself. Marks, credits, grade-point averages, tests, degrees, the form on which the program is written, course numbers, and directives from the registrar too often become more important than the very people they are intended to serve.

A view of evaluation as a means suggests that examinations be used more than they have been for diagnostic purposes. Equivalency exams and proficiency exams such as those being developed through the New York State Education Department,[60] when implemented correctly, can provide useful data about where students are so that duplication of previous experience is avoided. Student self-evaluation is possible if bench marks are available to the student to check himself at various points. A cumulative record of activities, in various field experience situations, in courses the student has taken and in other less formal situations, may be kept by the learner himself. Much of this information can be descriptive data such as that which an intern would often keep during his direct experiences in a cooperating school teaching center.

Patterns of progress usually appear upon analysis of a student's performance. The teacher-education advisor and his counterpart in one or all of the cooperating teaching centers in which the student obtains his pre-teaching experiences, student teaching, internship, and first years of teaching can confront the student with opportunities not only to demonstrate his competence, but provide early experience in situations which enable him to learn what he needs to know to teach. As the prospective teacher-scholar gains an understanding about the complexities of teaching through teaching, he should have the opportunity to try out his competence in more complex situations. Evaluation then would be viewed as instructional improvement.

A feeling of joint responsibility for teacher education between the cooperating school and college is necessary in order to insure that testing competence does not mean creating the worst conditions possible and seeing if the prospective teacher-scholar survives. Instead, it should mean that he is afforded the opportunity to test his competence in a variety of real situations and to study the results.

In the evaluation process, the prospective teacher-scholar will benefit from the opportunity to participate in evaluating situations with his fellow students. There is no reason why students cannot teach each other. We have long realized that much learning comes from teaching someone else, but we have not capitalized on this concept enough in teacher education. In addition, we need to recognize that the content learned may fall away over the years or become obsolete, but the skills learned from constructive human interaction will always be needed, at least in any world in which we will want to live.

Nothing I have said here should be misconstrued as suggesting a laissez-faire attitude about evaluation, or for that matter, any aspect of teacher education. Evaluation, just as every other dimension of education which serves to help students toward self-realization, requires a deliberate and well thought out approach. I am not against critical appraisal by teacher-educators now and/or in the future, especially at the point of selection if it helps to remove the emphasis on extrinsic devices from the other phases of teacher education once the prospective teacher is admitted.

The essential requirement for intrinsic evaluation is a climate in which each prospective teacher-scholar is free to test his own competence and take action to improve his shortcomings. If the kinds of "free" confrontation situations described earlier are used to place the burden of responsibility for evaluation upon the learner, the incompetent will drop himself out. In cases in which the student is asked to withdraw, his advisors will be close enough to the student to be aware of his specific limitations and will be able to furnish relevant data supporting the decision, especially in the kind of instructional organization described earlier in this paper. In a program concerned with the personal dimension, a number of faculty will develop a close association with the student and help him to understand his limitations as well as his strengths.

CONCLUSION

We know that individuals have different personal qualities, but in our present programs of teacher preparation we act as if all prospective teacher-scholars are standarized in the conceptual schemes they possess, the intellectual processess they use, and the kinds of understandings and skills they can and should produce. This assumption is demonstrably untrue, because it separates the intellectual and personal dimensions in the first place. Our lack of regard for unique intellectual-personal differences has led us to make some critical errors in building teacher education programs. We have too often taken steps to change and improve a program in ways we assume will be to everyone's advantage, by rewriting the course content or shifting the sequence of courses or adding new materials. But as a result, we have found that the new instructional organization, content, materials and evaluation procedures are alien to the student's particular approach to understanding. Because each student's cognitive operations, his approach to cognitive tasks, and his feelings about knowledge are personally unique, they cannot be disregarded by the curriculum builder.

Programs of teacher education for the future which are intended to enhance the interrelationships and meaning of all dimensions of the teacher education process must emerge from and return to the basic notion that each individual in preparation has his own unique conceptual schemes through which he selects, interprets, evaluates, and synthesizes experience.

When we plan programs to meet the challenges of the next twenty years, we must not operate under the illusion that we can create a single curriculum best suited to all students. Instead, we must plan teacher education in such a way that we systematically provide opportunities to know what differences exist within each of our students, and develop flexible programs which offer a wide variety of resources for reaching the professional goal of teacher-scholar. Implied in this view of teacher education is the process of continuous change within each field of knowledge and within each unique prospective teacher-scholar.

What this paper proposes is not an easier way, or a harder way, or a deeper way, or a shallower way of doing the same thing. It is a different way. It is a way that calls for recognition of the importance of the personal dimension in the education of American teachers.

I am aware that wide scale implementation of this approach would involve revolutionary changes in teacher education institutions and in the whole view of the teacher educator and his functions. That is exactly what the future demands.

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OUTLINE FOR REACTIONS

WHAT TEACHER EDUCATION COULD AND SHOULD BE DOING IN THE NEXT TWENTY YEARS

or

A NEW FOCUS ON THE PERSONAL DIMENSION IN THE EDUCATION OF TEACHER-SCHOLARS

1. Review of basic premises. A look into the future is provided on pages 4 thru 15. Some objectives of teacher education are summarized on pages 18-19. The assumptions as to the intellectual-personal uniqueness of prospective teachers are stated on pages 19 thru 28. Are the changes seen through my crystal ball plausible? What other changes would you forecast, and what implications do they hold for teacher education? Is the description of a teacher-scholar adequate as a statement of the goals of teacher education? What other factors need emphasis? Are the basic assumptions about individual uniqueness adequate? What other areas need to be explored for a more defensible rationale? Would you like to suggest an alternative set of assumptions which could be used as the basis for the development of teacher preparation programs?

2. Implications. Are implications regarding the organization, content materials and media, and evaluation dimensions of teacher education consistent with the rationale--predicted changes in society--the goals of teacher education and the assumptions about intellectual-personal uniqueness? What implications would you draw which go beyond those stated in this paper? What implications are not justified? What additions, changes, or deletions would you propose?

3. Content. Content is viewed as a means for helping students to gain the understandings and skills neededto become a teacher-scholar. Sequence is viewed as a highly personal matter. How does this view of content compare with your view? In your view, does content have dynamic qualities in and of itself? What does viewing sequence as a personal matter suggest for the work of the curriculum builder? What does viewing different content for different students at different rates suggest for the work of the teacher-educator? What other ways should we view content?

4. Instructional organization. A team organization is suggested for organizing a unified program. What problems can be anticipated in this kind of arrangement? Can a team arrangement be adapted to a large university setting? Independent study, inquiry groups, professional action groups, seminars, and a close student-advisor relationship are proposed. What are the weaknesses in the proposed organization? What are the strengths?

5. Newer media and materials. The potential of new media is dependent upon clarity of purpose and assumptions about learning and teaching. What new technological aids do you believe hold the most promise for improving instructions?

6. Evaluation. Criticism in the paper is leveled at our present use of evaluation practices. On page 71 it is stated that evaluation more than any other aspect of education becomes an end in itself rather than a means. Is this a legitimate criticism? What changes would be needed to use evaluation devices for diagnostic purposes? Are the evaluation practices proposed consistent with the purposes and practices described in other dimensions of the teacher education process--content, organization, and methods and media?

7. Direct experience. Included in the proposed program is a variety of direct experience designed to help the prospective teacher to initially learn what he doesn't know about teaching, to study teaching systematically at different levels of depth, and to demonstrate competence in a variety of teaching situations. Because of the centrality of direct experience throughout the program (e.g. tutoring, teacher aide, pre-teaching, student teaching, internship, the first years of teaching and "task force" type experience in social action agencies) community, school and college relationships become very important. Consideration must be given to the changing role of cooperating and supervisory personnel. Under this kind of program what new skills will be needed by the advisors, supervisors and members of the three types of faculty identified? How will the cooperating teaching centers and/or "teaching hospitals" change? How will the college of education change? Will future staffing include dual appointments of school and community action supervisors on college faculties and vice-versa? What is your concept of the kind of teaching centers needed to improve tomorrow's teacher education programs? What new problems can be anticipated and planned for in these new interlocking systems made necessary when the study of teaching is viewed as a lifetime process?

8. The Challenge. Individual learning in a society organized for mass instruction is one of the major thrusts of this paper. The ideas presented provide part of a rationale which could be used in expressing the need for maintaining a focus on the uniqueness of each human being. Could it be that many of society's human relations problems find their roots in education's increasing disregard of the importance of personal involvement in learning? In a profession that requires as much human interaction and personal commitment as teaching, can we afford to neglect the personal dimension in pre-service and in-service education programs? A final consequence derived from consideration of the personal dimension is that if teachers and administrators are to foster inquiry and self-instruction, they must learn both and exemplify both in their own educational lives. Do present programs and procedures manifest a fundamental doubt about the ability of students to participate in planning their curricula? Is it fair to say that teacher education in our colleges now is primarily the transmission of content through lecture, reading, recitation, and test taking or are our colleges demonstration centers for the personalization of instruction and learning?

9. Implementation. The concluding statement suggests that the profession needs to come forth and accept the responsibility of developing total programs focusing on personal uniqueness. Is it possible to make the proposed changes within the existing structure and procedures of most teacher education institutions? Are the various dimensions of the educative process so closely entwined that when changes are made in one dimension changes in other dimensions must also be made at the same time? What other factors would you want to have considered before implementing the proposed changes?